The Croonian Lectures,

BEING A

CONTRIBUTION TO THE HISTORY OF THE RESPIRATION OF MAN.

Delivered before the Royal College of Physicians of London on June 18th, 20th, 25th, and 27th.

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LECTURE II.[1]

Delivered on June 20th.

MR. PRESIDENT AND GENTLEMEN,—Before entering on the subject proper of this lecture I must beg leave to glance at a few of the prominent contributions to our knowledge of the phenomena of human respiration. In 1849 Regnault and Reiset, from experiments on animals, observed that a marked volume of oxygen was taken in at the lungs which failed to reappear as carbonic acid in the expired air, and they established a relation between the oxygen consumed and the carbonic acid produced. These experiments were confirmed in 1891 by Messrs. Chapman and Brubecker of Philadelphia. Dr. Edward Smith, in a paper published in 1859, divides foods into two classes, according to their action on respiration—the excito-respiratory, which increase the production of carbonic acid, and the non-excitants, which have a contrary effect. In the former class he includes tea, sugar, coffee, rum, milk, cocoa, &c.; also gelatine and albumen, though their effect is less marked. Rum and milk have a very pronounced and persistent action. Two results are prominent in this paper: first, that fats, oils (cod-liver oil), and starch diminish the carbonic acid expired; and, secondly, that, although the ingestion of pure alcohol and rum act as respiratory excitants, still drinking brandy, whisky, and gin is attended with a diminution of the carbonic acid expired. The elaborate chamber constructed by Pettenkofer of Munich in 1863, and his important inquiries with Professor Voit into the respiration of man should be placed here on record. In 1874 C. Speck published important papers on Respiration. He observed, as will be confirmed in the present lecture, that on returning to natural respiration after forced breathing, and therefore in consequence of increased ventilation of the blood, much less air is expired for a short time than in ordinary breathing in repose; and also that the amount of carbonic acid expired in the after-effect of forced breathing falls considerably below the normal. The oxygen taken from the air is also momentarily reduced.

In 1878 Paul Bert's remarkable book on "The Effects of Barometric Pressure on Respiration" was published, and in it he states that animals dying in closed vessels, and consequently in their own carbonic acid, exhibit precisely the same symptoms as if they had perished under diminished atmospheric pressure, from which he concludes that carbonic acid is absolutely innocuous and that in such cases death is due to want of oxygen. In more recent years Dr. George von Liebig of Munich, Messrs. Jolyet Bergonié and Sigalas, and MM. Henriod and Richet have contributed a number of important and elaborate papers on Respiration. Finally, Dr. Haldane of Oxford, who has been engaged for some years with inquiries on the respiration of man and animals, has shown that while 5 per cent. of carbonic oxide in atmospheric air is fatal to mice, in an atmosphere of oxygen the proportion of carbonic oxide can be increased to 5 or 10 per cent. without fatal results; and if the pressure of the oxygen be raised by one atmosphere the two atmospheres of oxygen may be mixed with an additional atmosphere of carbonic oxide without harming the animal.

The phenomena of respiration, simple as they appear at first sight, lead on a closer inspection into details many in number and increasing in complexity the further the study is carried. In addition, these phenomena are not precisely the same for everybody; I have, therefore, repeated the experiments on as many different persons as possible. The methods adopted in the above-mentioned investigations were very various. Edward Smith inspired through one gas meter and expired through another; while C. Speck inhaled air under atmospheric pressure from a bell jar suspended over water, and collected the air he expired in a similar receiver, the change of direction in the respiratory current being effected by delicate valves. Dr. G. von Liebig, in his experiments, instead of directly measuring the volume of air inspired, obtained it by calculation from the nitrogen found in the air expired, assuming that nitrogen was neither absorbed in the body nor given out of it in the process of respiration. After the expenditure of much time and labour in the endeavour to obtain the most accurate results by means as simple as possible, and objecting to the use of gas meters on the ground that none could be found sufficiently delicate to allow of the passage of air to and from the lungs without offering any resistance, while valves and absorbing media were open to the same objection, I finally adopted the following method: a cylindrical bell jar of sheet iron, holding about 40 litres, or 1·4 cubic foot, furnished with a scale divided into litres and fractions of a litre, was suspended in water over a pulley working on friction wheels and accurately balanced by a counterpoise. To the pulley was fixed a cycloid or lever carrying a weight, the cycloid being so constructed that the effective arm lengthened as the bell jar rose, this arrangement maintaining the receiver under atmospheric pressure at every position in its course. A thermometer and pressure gauge showed the tension of the air inside the receiver. The person under experiment inspired fresh air through the nose and expired through the mouth into a tube connected with the bell jar—a process which, with a little practice, soon became quite natural. In the later experiments a small additional weight was added to the counterpoise, which gave a very slight ascending motion to the bell jar, and thus did away with the feeble effort necessary to raise it when under atmospheric pressure only. By means of an uniformly rotating drum and a horizontal style fixed to the top of one of the three bell jars employed expiratory tracings were obtained on skeleton charts; the abscissæ engraved on the chart measured the number of litres expired, and the ordinates recorded the minutes through which the experiment was continued. The air collected in the bell jar was analysed for the determination of its carbonic acid or carbonic acid and oxygen, the amount of the former being determined by Pettenkofer's method, and the oxygen in an eudiometer of my own construction. As already stated, the volume of air inspired can be determined by calculation from the volume of nitrogen expired, assuming that the nitrogen in the expired air represents exactly the nitrogen inhaled. To find out experimentally if this assumption was correct, a measured volume of air saturated with moisture was inhaled from one bell jar and exhaled into another, thus showing in a direct manner the volumes of air inspired and expired; at the same time the volume of nitrogen in the expired air was obtained by analysis, and from it the volume of air inspired was calculated. The mean of ten experiments gave a volume of air inspired, as determined by direct observation, almost identical with that obtained by calculation from the volume of nitrogen in the expired air, thus showing conclusively that no appreciable amount of nitrogen is either absorbed or given out from the blood in the phenomenon of respiration, and also justifying the method employed. If a person, while resting in a recumbent posture in an armchair and breathing quite naturally, should measure the volume of air he expires, this volume will be found invariably smaller than the corresponding volume of air inspired. A certain volume of oxygen has remained in the body. What has become of it? Formerly this absorbed oxygen was looked upon by some authors as combining with hydrogen to form water, but of this there is no proof. Its amount is subject to great variations even in the same person, while these oscillations appear greater in young people with active tissue change than in elderly persons with a slow and regular metabolism, young people as a rule absorbing more oxygen in a given time than persons of mature age. I have also observed, as will be shown in my next lecture, that absorbed oxygen is intimately connected with the mental process of volition. The period of the maximum absorption of oxygen is undoubtedly within the first hour after a midday meal; this is a time when the carbonic acid expired is low, but the body has to prepare for the forthcoming increased assimilation and tissue-change under the influence of digestion, hence, apparently, there is a demand of oxygen by the tissues to be stored up towards these phenomena.

From the following table, giving results of experiments

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on myself, it will be seen that for a person aged sixty-three the mean volume of oxygen he absorbed per minute while fasting was practically the same as under the influence of food, being 35·3 c.cm. fasting and 34·6 c.cm. while under the influence of food:—

Oxygen absorbed per Minute (Author under Experiment).

Fasting:—
Year 1891 (6 experiments), from 25·7 c.cm. to 42·8 c.cm.; mean, 35·3 c.cm.

Mean time of two and a half hours after full meal:—
Year 1891 (6 experiments), from 21·3 c.cm. to 36·7 c.cm.; mean, 30·2 c.cm.
Year 1892 (10 experiments), from 20·4 c.cm. to 46·1 c.cm.; mean, 36·7 c.cm.
Year 1894 (21 experiments), from 27·7 c.cm. to 45·0 c.cm.; mean, 37·0 c.cm.

In the case of three young men who submitted to experiment—all of them from twenty-one to twenty-three years of age, strong and in good health—the following results were obtained:—

Oxygen absorbed per Minute.

Fasting.	Nearly two hours after lunch.	Increase after lunch.
c.cm.	c.cm.	
No. 1 (6 experiments), 33·3	(6 experiments) ... 37·5	12·6 per cent.
No. 2 (3 ,,), 34·1	(7 ,,) ... 50·0	46·6 ,,
No. 3 (6 ,,), 34·4	(12 ,,) ... 40·5	17·4 ,,

It will be seen from this table that distinctly more oxygen was absorbed about two hours after a full meal than when fasting; hence it appears that in the case of young people there is a decided increase of the oxygen absorbed at a time when the carbonic acid produced is not far from its maximum. This is, however, not the occasion of the maximum absorption of oxygen which, as stated above, occurs in the course of the first hour after a full midday meal; this is shown by the following figures for that period:—

The author (4 experiments), 47·9 c.cm. to 58·3 c.cm.; general mean, 54·0 c.cm.
Assistant (7 experiments), 56·4 c.cm. to 81·6 c.cm.; general mean, 57·4 c.cm.

The oxygen absorbed added to the carbonic acid produced will indicate the total amount of oxygen taken from the atmosphere, or oxygen consumed. The relation between the oxygen consumed and the carbonic acid produced has been called by Regnault and Reiset "the respiratory ratio," and is expressed by the ratio $\frac{CO_2 \text{ produced}}{\text{oxygen consumed}}$. Now, the value of this fraction varies considerably at all times of the day, under the influence of food and from other causes; but when calculated for the mean volumes of oxygen consumed and carbonic acid produced in the day-time in a state of rest it appears to be nearly the same for different people. Thus the mean obtained by Messrs. Jolyet, Bergonié, and Sigalas was 0·864; that obtained on myself was the same, 0·864; the corresponding figure as a mean of 27 experiments was 0·862 for one of my assistants, and 0·878 for another from 20 experiments. The subject, however, requires further investigation on account of the number of circumstances controlling this ratio, and I have found exceptions to this mean figure into which I am not yet prepared to enter.

There is no direct connexion between the CO_2 produced and oxygen consumed, and there is no meaning in the respiratory ratio unless given as a mean for the whole day in the state of rest, and even this mean is subject to exceptions. I am anxious to make this statement lest I should be misunderstood. It is impossible to trace the history of the oxygen taken from the atmosphere at the lungs by the blood corpuscles. This oxygen is carried into the tissues and there detained and stored up according to their requirements. The great increase of oxygen taken in, and the low volume of carbonic acid expired within an hour after a meal, certainly appears to show that on this occasion the tissues store up within themselves a considerable amount of oxygen in readiness to take part in the increased assimilation and tissue change resulting from the digestion of food. The reverse would take place from a sudden accession of cold, when the carbonic acid expired has been found—at all events, in my case—greatly in excess of the ordinary proportion of oxygen absorbed. On this occasion it appears as if carbonic acid is formed at the expense of the oxygen stored up in the tissues. This view, arrived at after mature consideration of Hermann's results, does not, I am afraid, agree with that I expressed on a former occasion.

THE DIFFERENT FORMS OF RESPIRATION.

On taking a general view of human respiration it is found that this function may assume four distinctly different forms, which include the endless varieties of breathing. The first is automatic breathing in a state of repose; the second is forced or laboured breathing while the body is in a state of rest; the third is breathing while under muscular exercise; and the fourth is breathing while the body is in a perfect state of repose, with the mind or imagination actively at work towards the exercise of volition. I shall make no further remark on the first form, but pass on at once to forced respiration. If a person, while sitting with his muscles fully supported, should take a series of gasps or forced inspirations, he not only exercises his ordinary muscles of respiration, but brings into play other muscles not usually concerned in breathing in a state of repose, thus increasing the muscular labour, for which an extra amount of heat is required. The increase of labour is obvious from the fatigue experienced if the forced breathing be continued for three or four minutes in succession, and when lasting for twelve or fifteen minutes the impression is very marked. Now, although as large a volume of air is often breathed under muscular exercise as in forced breathing no fatigue whatever of the muscles of respiration is produced. The muscles directly concerned in the exercise may show signs of fatigue, but not the muscles of respiration, which have acted a secondary part in conjunction and harmony with the exercise. The experiment for forced breathing is conducted as follows. The person under experiment breathes automatically into the bell jar connected with the recording drum, and obtains a tracing of his normal breathing in repose; he then takes a succession of deep gasps for one, two, or three minutes, the recording apparatus being kept at work; after that time he relapses into normal automatic breathing while the tracing is continued on the chart for two or three minutes longer. This tracing of forced breathing is characteristic. First, the inclination of the line is considerably steeper than for normal breathing, corresponding to the expiration of a much greater volume of air in a given time; next, on relapsing into ordinary automatic breathing, the line will exhibit a tendency towards the horizontal direction for a few seconds, showing a pause in the respiration, a state of apnœa, after which the inclination of the line again rises somewhat beyond the normal, owing to another increase in the volume of air breathed. This second increased expiration, though always present, is, however, but slight; the tracing then returns parallel to that for normal respiration, the physical effects of forced breathing being now over.

[*Breathing Chart, 1.*—The lecturer here exhibited a chart which showed a tracing of normal breathing, rising at an angle of about 45° for four minutes with an expiration of eighteen litres of air. The tracing of forced breathing rose at an angle of 70° for one minute and a half with an expiration of seventeen litres of air. Upon the forced breathing ceasing a short pause appeared and then the tracing returned to nearly the normal, but the line of ascent was slightly more steep.]

A consideration of this curve shows that first of all an increased volume of air is taken into the lungs; this process is laborious and attended on that account with increased combustion, resulting in the production of a slight excess of carbonic acid; this is found experimentally to be actually the case. Next, a certain proportion of the carbonic acid stored up in the blood is displaced by the increased volume of air breathed. This phenomenon is also demonstrated by analysis. On returning to natural automatic breathing there is, as stated above, a pause or state of apnœa, due either to an accumulation of oxygen in the muscles of respiration or to the fact that, some of the carbonic acid stored up in the blood having been given out, a quiescent state of the breathing is necessary to allow the blood to charge itself afresh with that gas, and, the body containing at the same time, an excess of oxygen absorbed, there is no feeling of want of air. The next phenomenon observed after the pause is a slight increase in the air breathed beyond the normal. This increased ventilation of the lungs is clearly due to a want of oxygen in the blood, the oxygen present having been to a great extent used up during the pause; a fact showing that such is the case is that this increased breathing is more or

less marked according as the pause has been long or short. Thus far the physical character of forced breathing has been described; a few remarks have to be added on its chemistry.

During the forced respiration a certain amount of carbonic acid in excess of normal is exhaled from the blood, and at the same time the quantity of oxygen absorbed is increased. A very small portion of this excess of carbonic acid is the result of combustion due to the extra muscular work, the greater part being displaced from the blood. Obviously if such is the case, on filling several bell jars in succession with air expired in forced breathing, the second bell jar will contain a smaller excess of carbonic acid than the first, and the third smaller than the second, less and less carbonic acid being left in the blood as the experiment proceeds. The analyses in four experiments on myself and three on my assistant confirmed this view. The figures obtained in one experiment for carbonic acid emitted from the blood when disposed on a chart yielded a curve of a parabolic form. Sneezing, sighing, yawning, and sobbing come under the head of forced breathing. In sneezing, for instance, a deep inspiration is first taken, followed by a sudden expiration, which carries out with it a certain volume of carbonic acid from the blood. Immediately afterwards a pause is observed because there is in the blood an excess of oxygen and a deficiency of carbonic acid. From the pause time is given for the excess of oxygen to be used up and for the carbonic acid in the blood to be increased to the normal.

The third form of breathing is that of breathing under muscular exercise. In both its physical and chemical aspects it differs greatly from the first and second form. The moment muscular exercise of any kind is taken the volume of tidal air breathed in a given time is increased; this phenomenon is absolutely automatic and unattended with fatigue. In my experiments the exercise taken consisted of stepping sixty-six or sixty-seven times per minute, the heels being raised to a height of about four inches, when the direction of the line of breathing on the chart gave a fairly straight diagonal, with a much steeper rise than in ordinary breathing in repose. After the exercise had lasted for two or three minutes the person under experiment assumed the recumbent posture in an armchair, breathing perfectly automatically. The tracing on the chart was now observed to continue in the same direction for a length of time in a great measure proportional to that during which the exercise had been taken; then the inclination of the line became less and less steep, till it gradually returned parallel to the normal. The tracing, therefore, exhibited no pause as occurred in forced respiration.

[*Breathing Chart, 2.*—The chart here exhibited tracing of normal breathing, as in breathing chart 1; tracing of forced breathing, pause, and after-stage, also as in chart 1. The tracing of breathing under exercise showed a line rising at an angle of 60°, with an expiration of ten litres in one minute. After this, the exercise ceasing and the recumbent position being assumed, the tracing returned exceedingly gradually to the normal, there being no such marked difference as was evident on the cessation of forced breathing.]

Forced breathing, immediately following exercise, shortens the period of breathlessness on resuming the state of repose, and it is possible to regulate forced breathing in such a way that after two or three gasps normal respiration follows immediately. These remarks have a practical bearing; they show that a person much out of breath from muscular exercise, on assuming the state of repose, would experience immediate relief from a few deep gasps, and also that a long breath now and then, with a short rest, in the course of protracted exercise, would be of help to respiration.

Let us now inquire into the different stages of respiration under exercise. First of all more oxygen is wanted from the air for the heat required for the muscular work, hence a larger volume of air is breathed; at the same time an increased amount of carbonic acid is expired, but this emission of carbonic acid cannot take place at a speed proportional to the rate of its production, and it therefore accumulates in the blood. On arresting the exercise and assuming the state of repose the excess carbonic acid is given out, and with that object the lungs have to be freely ventilated; hence the state of breathlessness or dyspnœa after such exercise as running or walking. Chemical analysis shows that a large excess of carbonic acid is given out on sitting down after exercise, which carbonic acid must have been produced by muscular contraction, as there can be no excess of combustion in a state of repose, for, if there were, the temperature of the body would be raised, as the heat produced could not be disposed of in any other way but by radiation, a consideration which led to the following experiment. Two clinical thermometers were maintained under the tongue while stepping, and left there long enough to be certain of the sublingual temperature; then one of the thermometers was removed, while at the same time the person under experiment assumed the state of repose. After about ten minutes the second thermometer was withdrawn, when both were found to give the same reading; hence there is no excess of carbonic acid formed on resting after exercise beyond a small quantity corresponding to the work done to rid the blood of the carbonic acid with which it is charged. The dyspnœa after exercise recalls an interesting experiment of Claude Bernard, who injected sulphuretted hydrogen into the circulation of a dog, and after each injection the animal drew a succession of deep breaths, thus getting rid of the gas injected by an increased pulmonary ventilation. The sulphuretted hydrogen could be clearly detected by the odour of the animal's breath and its action on paper moistened with lead acetate. Reading, talking, singing, screaming, coughing, all belong to the form of respiration under exercise. Screaming shows from its tracings that in some cases it is breathing under exercise, in others forced breathing. In the case of singing the records point out that on singing in the sitting posture there may be forced breathing, though not in the standing position; hence the importance of singing standing. In reading, talking, and singing the tracing of the "after stage" is at once parallel with the normal, showing that in these instances there is no breathlessness produced, and no excess of carbonic acid retained in the blood.

I shall beg to conclude this lecture with a few remarks on the exhalation of water from the lungs at different altitudes. The amount of this evaporation must be controlled by three different causes—the atmospheric temperature, humidity, and pressure. Given temperatures and humidity approximately equal, an elevation above the sea level will increase the evaporation together with the lowering of pressure. When on the Peak of Teneriffe in 1878 I selected four stations for experiment—one at the seaside, another at an altitude of 7090 feet, the next at 10,700 feet, and the fourth inside the shallow crater, at the very summit of the peak, at an altitude of nearly 12,200 feet. The weather was very fine, and the atmospheric humidity exhibited no great variations at the different stations, except at the seaside, where it was decidedly higher. The air expired was breathed through absorption tubes filled with calcium chloride into a bag of known capacity, the time of breathing being also observed. The humidity of the atmosphere was determined with wet and dry bulb thermometers, and the weight of moisture contained in the volume of air inspired was subtracted from the total moisture expired; thus the weight of the water evaporated from the lungs was obtained. It was found that as the altitude increased more and more water was evaporated from the lungs within a given time, although the amount of this increase was not quite proportional to the increase of altitude, clearly because the loss of water from the blood at increasing altitudes left less to be evaporated, the blood retaining necessarily a minimum quantity of water. We shall return to the subject of respiration at high altitudes in the fourth lecture.

The Bowman Lecture

ON

SUBJECTIVE VISUAL SENSATIONS.

Delivered before the Ophthalmological Society on June 14th, 1895,

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(Concluded from p. 1566.)

SIGHT AND MOVEMENT.

THE relation of sight to movement of the body is one of the obtrusive facts of animal life. I remember once watching a flock of wild swans on the river Axe, slowly moving on the stream in uniform position. Suddenly a small dog appeared on the bank a hundred yards away. Instantly every head was turned at the same angle, every neck wa

curved and inclined in the same manner. The uniformity was an instance in which the mechanism of life is a machinery such as man's invention may produce. The same visual impulse caused the same movement in every swan. In man the relation is familiar enough, but disordered action makes it more conspicuous, because the same process occurs in a different form. The relation is presented to us in some cases of epilepsy, in which the visual sensation precedes the motion which constitutes the fit. Instead of the motion that is seen, there may be a tendency to motion only slight enough to be felt. The motion is that of turning; the sense of motion is that of vertigo. The visual aura of epilepsy may teach us something of vertigo. There are two primary movements of the body—progression forwards and rotation, walking and turning. The latter is the result of unequal activity of the centres in the two sides of the brain. If both sides act equally there is no turning; if one side acts more, or only, there is turning from that side, first of the eyes and then of the head, and lastly of the whole body. In epilepsy there is generally greater action on one side, and therefore there is this rotation, seldom of the whole body, commonly of the head and eyes.

Under normal circumstances, in ordinary life, the great cause of such rotation is the appearance of some object at one side of the field of vision. An object comes into view on the left side because it is moving towards the right. It is seen first chiefly through the right hemisphere. The visual impulse rouses the motor centres; the eyes and head turn towards the left to "fix" the object. But the object is moving towards the right, and the first movement to the left is followed by a movement towards the right, to follow it, until it disappears at the right edge of the field of vision. Then this long movement to the right is followed by a return to the mid-position by the action of the right centres. Note this alternation, and its necessary relation to the stimulation of the visual centres of one hemisphere from the opposite eye,—motor action first in that hemisphere, then in the opposite one, and lastly again in the one first active. Note that the second, opposite, activity is the longer, more extensive in its range.

Almost the first medical observation I published was that of a man with traumatic meningeal hæmorrhage over the left hemisphere. He had repeated convulsions, right-sided, which I watched for hours. In each the head and eyes turned strongly to the right as the fit came on. But this was preceded by a movement to the left, and this again by an initial slight deviation to the right. We have here, from irritation of one hemisphere, precisely the sequences just described. But compare with that active irritation the following case. A boy, at the age of five, had sudden left hemiplegia during a severe general illness. Partial recovery was followed by recurring convulsions of the left, hemiplegic, side. Each fit began thus: a slight movement of the head to the left, a much stronger and longer movement of the head towards the right, then a deviation again to the left, intense, as the boy passed into the convulsions. Here we have again the same sequence, but here we have an opportunity of discerning more of the process. The patient came under observation as a most intelligent boy of eleven years of age, and described the following warning. The figure of a man suddenly made its appearance at the extreme left of the field, slowly moving towards the right. He felt compelled to try to look at it and to follow it, and did so until it disappeared at the right edge of the field. Then he lost consciousness, and knew nothing of the subsequent strong deviation to the left in the fit. The movement to the right impressed his consciousness, and was felt as conscious turning to the right, as vertigo. Here, then, we have these sequences distinctly associated with the action of the visual centre, and, apparently, the influence of this on the motor centre. Yet one other case. In this, each fit was preceded by the sudden appearance of a blue light on the left side, sometimes of two or three near together. These always moved slowly towards the right and a little upwards, and the patient felt compelled to follow them. The head and eyes were moved towards the right in this effort, as far as they could be, by strong tonic spasm in the muscles of the neck. This occupied about thirty seconds, and then suddenly ceased on the disappearance of the visual spectrum. The eyes and head, thus released, could be moved from the right, but this movement was continued towards the left as an involuntary movement, which was, however, far greater in the eyes than in the head. For nearly a minute the eyes were turned extremely towards the left, and the head only half-way from the mid-position. During this time he could move the head towards the right, but was absolutely unable to move the eyes from their extreme deviation to the left. Then he lost consciousness and the general convulsion of the fit came on. We have here again the same sequence, but the convulsion was not left-sided, it was general, and the final left-sided spasm had not the intensity which accompanies a left-sided fit. I could give other similar instances, but these may suffice to indicate the close relation of the head and eyes to activity of the visual centres. I may point out how indispensable, for understanding them, is the theory of the representation of both fields in the higher visual centres and of their mutual action. We must conceive that the activity of the motor centre caused by a sensation connected with the opposite edge of the field has the stronger action on the motor centre of the same hemisphere, and that the sensation connected with the side of the field which corresponds to this hemisphere has the least action. Yet the absolute gradation and intergradation of the sensation and result is compatible only with visual centres functionally one.

MICROPSY AND MACROPSY.

The visual spectra, especially spherical lights, may seem to approach nearer and nearer, or to recede. In the same way, objects that are actually seen may seem to approach or become more distant. The increased distance is associated with diminished size and sometimes with dimness of sight, but a few patients whom I have closely questioned have been clear that the apparent increase of distance was not the result of any indistinctness of vision. It may be that there is an associated change in the position of the eyeballs such as occurs when the object becomes more distant. The apparent approximation generally goes on until the object seems so near as to overwhelm the patient, and then consciousness is lost, while the apparent recession of objects passes by dimness to the same result. It would seem as though the processes of discharge and inhibition may each have a peculiar form in which objects that are seen are perceived as nearer or further, with augmentation or diminution of size. This condition is of interest as comparable possibly to the sensation of movement which results from an activity of the motor centres too slight to cause actual movement.

MIGRAINE.

From the visual spectra of epilepsy we may pass to those of migraine, those which occur as the premonition of the headache which, from vomiting so often accompanying it, is called "sick headache," and is also known, from the affection of sight by the suggestive popular name of "blind headache." These constitute the second group of subjective sensations. The two groups present a marked contrast in most of their features, and yet are not without intermediate connecting forms. The epileptic sensation is extremely brief, and precedes loss of consciousness or convulsion; the migrainous sensation is deliberate, slow in evolution, occupying more minutes than the seconds during which the epileptic sensation exists. It is followed, not by a convulsion lasting minutes, but by a headache lasting hours. Yet, just as the epileptic sensation may occur alone as the slightest form of attack, so the spectrum of migraine may occur alone without succeeding headache.

Not only are these sensations longer in duration, but they present peculiar forms. The elementary features of the migrainous spectra are very few, although their combinations are most varied. They are always simple, in the sense that they are low in the scale of sensation in its relation to mind. No visions of faces, or objects, or persons, or places ever precede the headache. Yet the sensation, simple in character, is elaborate in form, the simple elements being developed in the most complex combinations, giving rise to spectra that are extremely curious, and will one day, I doubt not, be most instructive. But that day is not yet come. All I can hope to do is to stimulate others to the minute observation and description through which alone, at some time, it may be possible to discern the meaning which the phenomena must have, a meaning as profound and important as it is now mysterious. Our knowledge of these spectra dates chiefly from the careful description of his own sensations by Dr. Hubert Airy, which appeared in the Philosophical Transactions of the Royal Society for 1868, of which the plates have been reproduced in Dr. Liveing's admirable treatise on

Megrim, a book which will be regarded ultimately as one of the classics of the century. I am very fortunate in being able to show you to-night a series of other drawings, unpublished, which Dr. Airy has made of his sensations, accompanied by notes taken at the time. Another series of drawings of great value has been kindly made for me from his own sensations by a distinguished water-colour artist, Mr. B——. The peculiarity of the type of sensation and their manifest accuracy render these very important. Besides some other miscellaneous sources of information I must mention especially the illustrations from which one of the series of diagrams is made. In the year 1879 a man aged sixty years came under my care as an out-patient at the National Hospital for the Paralysed and Epileptic and remained so until his death, about five years later. During those years he was subject to the frequent appearance of visual spectra, very like those of migraine, but never attended with headache. He was not an educated man, but was a mechanical engineer and mechanical draughtsman. He was an inventor; his great inventive subject was new kinds of taps, but so far as I could learn the taps could only be turned on so as to empty his own pockets, and could not be turned off. Beck was possessed with the idea that these spectra were objective things, and he delighted in depicting them in the fashion of an engineering draughtsman. The result was the book which I hold in my hand. It contains a number of illustrations of these various appearances, manifestly far too mechanical, and yet executed with a precision which makes them in some points trustworthy. They are accompanied with some rather quaint descriptions, in which it is easy to discern a definite degree of aphasia. I could not very well read them to you, even if I had time, on account of the epithets applied to myself. Perhaps the least objectionable of these, written seventeen years ago, is "the venerable Dr. Gowers." The great desire of poor Beck's last years was that the book should be brought under the notice of the Queen. Perhaps, if he had been conscious of the due relations of things, he would have recognised that the next best thing would be for his book to be brought under the notice of this Society. I have gained permission from Dr. Airy to present his drawings to the Society, provided they can be so displayed as to be available for study, and I propose also on the same condition to ask the society to retain the drawings of Mr. B—— and the curious record which John Beck has left of his experiences. These constitute alone a collection of facts unique in their character, and it may be reasonably hoped that this collection may attract other representations which will constitute a source of information the importance of which cannot but increase with increasing knowledge.

SPECIAL FEATURES OF THE SPECTRA OF MIGRAINE.

The spectra of migraine present as their most important feature the zigzag or angled character, which is well known in its curved form, as the "fortification spectrum." Its projecting and re-entrant angles bear a resemblance to the plan which the French engineer Vauban first devised as the most effective for the defence of a fortress. The second peculiar feature is the combination of this angled spectrum with loss of sight, generally bounded by the luminous zigzag or definitely related to it. The spectral appearances perceived by Beck form a curious explanation of this rule. They were never accompanied by any dimness of sight. The angled line of light is seldom straight in its direction. It may form an angled sphere or an expanding circle or oval, which becomes incomplete, or a curved line. It is seldom a single line; usually the chief line is repeated within its concavity, never on its convexity, by lessening lines, which seem to be fading reflections, approximating so as to blend as they fade into the darkness of the loss within. But in this reflection, as it were, the lines which constitute the angles are reproduced in a peculiar manner—very beautifully shown in Dr. Airy's drawings. The angles are always regular in size, and often become progressively less towards the end of the curved zigzag line which is nearest the central point of the field. But their junction is not always exact. They may even so meet as to intersect, and form a complex sort of *chevaux de frise* very strikingly depicted in some of Mr. B——'s drawings. The double or multiple rows give rise to a peculiar appearance. This will, I think, be found important whenever the time comes for the mystery of this angled form to be unravelled. I can offer no explanation for these angled lines, nor do I think that any explanation has ever been given. The conjecture has, indeed, occurred to me, but it is no more, that the form may be due to some struggle or, if the expression may be pardoned, harmonious discord, between the higher visual centres in the two hemispheres, for it seems to me difficult to doubt that in these spectra both higher centres are concerned. One strange feature which Mr. B——'s exact observation has noted as frequently observed by him is that, at the place where the intersecting lines reach their chief development, small circles of light occupy the interspaces between the crossing lines. They are not coloured.

COLOUR IN MIGRAINOUS SPECTRA.

The frequency with which colour is seen in the angled spectrum varies. It may be transient or constant; it may be occasional only, and then is slight, and confined, as in Mr. B——'s experience, to trifling gleams where the angled element is most developed. It is most unusual for it to attain the extent and degree depicted in the diagrammatic drawings of Beck, and yet the care with which he has indicated its variations and also the unusual isolation of his spectra prevent us from dismissing his representations as too formal to be devoid of weight. Yet its presence and extent have more weight than its character. The trustworthy drawings of Dr. Airy show, however, that not only is colour, as in Mr. B——'s figures, perceived chiefly in the part of the spectrum in which the angled character is most elaborate, but that it is chiefly confined to the part of the angled spectrum in which the most intense luminosity is apparent, to the outer edge. It must be noted that here we have a very strong bounding luminous line, while in Mr. B——'s spectrum the chief development is by multiplicity of intersecting lines. Another feature is shown in Dr. Airy's figures: the colours always differ in the adjacent slopes of the lines. The contrasted direction of the lines is associated with a contrasted colour. We have, however, only four—red, blue, green, and orange; but we *have* four, and not the three or the six colours to which they are ultimately reduced in current theory. We must not, indeed, push too far such evidence, which can only rest upon memory. Still, the elaborateness and precision of Dr. Airy's drawings and the fact that the notes were made at the time, and the observations with purposed care, give them, I think, absolute weight. We must remember that we have here to do with the "spontaneous" action of the brain such as may result from the influence of light on the retina. Every colour—that is, every varying rapidity of the waves of light—induces the impulses in the nerve structures which pass along the optic nerves; these impulses and the processes in the centres must present a close correspondence. All we know of colour is due to these impulses, is due to the activity of the centre, and it is possible that the study of the phenomena of colour perception from the centre may serve to decide some of the many uncertain questions presented by the study of the process in the retina, which alone has hitherto engaged attention.

FORMS OF ANGLED SPECTRA.

To reduce the various forms which the angled spectra assume into any instructive order, I have found to be impossible. All I can do is to group them into what seem the chief classes into which they may be provisionally arranged for the convenience of study, and to point out the manner in which the leading elements are presented by each. Some general facts may be noted in the course of the description. The central region seems that in which there is least tendency to the discharge which causes a luminous appearance. The luminous discharge becomes gradually less as it extends into the central region. Inhibition involves this part, but not discharge. This is the opposite to that which we should expect. We should anticipate that where function is most acute and intense, spontaneous over-action would be most readily produced. It is outside the centre that the chief displays occur. They may also develop at the periphery, but if we divide the field into the three zones mentioned at the beginning of this lecture we shall find that the middle zone and inner part of the peripheral zone are the regions in which the phenomena occur in greatest development. But there is no limitation. Various forms invade all regions, with the exception of the central region. The chief forms seem to me to fall into the following classes—all, it must be understood presenting the angled form: (1) the Angled Sphere, mobile or transient; (2) the Expanding Sphere; (3) the Progressive Curve;

(4) the Lateral Spectrum; (5) the Secondary Limiting Spectrum; and (6) a Concentric Spectrum, with, as its variety, the Arched Spectrum. I will begin with the first.

THE ANGLED SPHERE.

This is a nearly round spectrum composed of a series of projecting angles, plain or coloured. It commonly has a dark background, not much larger than itself. In every form the luminous spectrum seems to be composed of minute, brilliant points in rapid movement. This angled sphere does not change its size, but disappears as it appears. It is met with in three associations: (1) as an object which moves to and fro; (2) as an isolated initial spectrum before some other; and (3) as a terminal spectrum, thrown off, as it were, by that which has developed before. As a mobile object it was the feature of a curious case in which migraine passed into epilepsy, by no means a rare event. First, a round object appeared in the right half of the field below the horizontal line. It was composed of about six pointed projections which had the unusual feature (at least, as ascertained by careful questioning) of being pointed towards the centre. These were alternately dull red and dull blue. They appeared on a black background. This moved slowly towards the left, inclining upwards, so as to pass above the fixing point, to a little beyond the middle line, then returned to its starting point, retraced this path once or twice, and then passed to the right edge of the field, keeping the same direction, so as to come near the edge of the field at the lower outer part. Then it passed back again, only to a little beyond the spot at which it appeared, and then returned to the edge; after two or three repetitions of the last course it suddenly disappeared at the spot at which it commenced. The patient kept the eyes shut during its appearance, but on opening them when it had gone, always found she could only see in the part of the field through which the spectrum had not passed. If she looked at a face a couple of feet from her she could only see the person's ear on her left side, and all that was to the right of the ear could not be seen; in only the third of the field to the left was there vision. The loss of sight lasted about a quarter of an hour, and gradually passed away. It is an instructive instance of the relation of the inhibitory loss to the region of the field in which the spectrum appears. The case shows how the central disturbance, though primarily unilateral, ignores the medial hemiopic line. The initial and terminal angled spheres will be mentioned with the spectra to which they are related.

THE EXPANDING SPHERE.

The most frequent form of migrainous spectrum, that which is commonly regarded as the typical one, is an angled sphere which expands into an oval, and, breaking, may enlarge into a curve. The stellate sphere appears on one side of the field, nearer the centre than the periphery. Its boundary outline retains the angled form, and this extends and increases in the size of its angles, most towards the periphery. Within it vision is dimmed or lost. Yet within the boundary zigzag the outer lines may be repeated, sometimes many times, with the semblance of reflection admirably depicted in Dr. Airy's drawings, in whom this spectrum was the common form. Colours are common in the outer line, and present the features mentioned. This form is accurately depicted by Beck as a faint spectrum, usually colourless, though colours were so conspicuous in most of his visions.

The expanding oval never reaches the centre. It breaks, and either the lower limb passes far away from the fixing point, while the other is directed towards it, or both pass beyond the fixing point. In either case the zigzag becomes narrower and its angles smaller in the limbs formed by the rupture. When one is directed towards the fixing point they cease to be recognisable, and the narrowing line always ceases before the fixing point is reached—a curious illustration of the resistance to discharge in this region. It is when such an expanding spectrum passes beyond the fixing point, dividing, as it were, for the purpose, that the terminal angled sphere may develop. Just beyond the ends of the broken oval, towards the termination of the period of discharge, a stellate spectrum may appear, like that from which the expanding zigzag arose. It remains, however, unchanged until the spectrum fades. It is, as it were, an abortive attempt at a repetition of the process, as if on the other hemisphere, but it is too curious to justify even speculation.

THE PROGRESSIVE SPECTRUM.

An angled spectrum, like that which results from the rapid separation of the limbs of the expanding form last mentioned, may arise by progressive extension through a curve in one half of the field, at the outer part of the middle or inner part of the peripheral zone. It presents features remarkably different from the expanding sphere, which it resembles in general form. A typical example is given in the careful drawings of Mr. B——, in whom it occurred in the same way, sometimes in one and sometimes in the other half of the field. There is no inhibition within the curve, as in the form last described. The first thing is a zone of darkness in the periphery of the lower quadrant. Then, above the inner part of this, a small, colourless star or angled sphere appears, to vanish when, from its neighbourhood, there develops a curved line of angles, small, and often intersecting lines. Their progress is upwards in a path concentric with the edge of the field, and may pass for a space as a sudden, straight, flash-like line, to resume the more deliberate zigzag form. It may pass beyond the middle line, in slight degree, in the upper part of the field, but attains its chief development in the upper quadrant of the side on which it commenced. There it presents the intersecting lines and small circles already mentioned, with slight tints of colour, chiefly red and blue.

THE LIMITING SPECTRUM.

The central region, as I have said, seems to possess peculiar resistance to discharge, although prone to inhibition. In the forms we have considered, in which inhibition is in direct relation to a primary spectrum, it is secondary. In one instance, carefully observed on himself by a member of our own profession, pure central inhibition was sometimes experienced, and was often limited by a spectrum in a very instructive manner. At the fixing point, a small, round or oval spot of darkness would suddenly appear, enlarging and becoming more intense at the centre. Its increase extended the loss of sight into the medial third of the field, from top to bottom, as simple loss. On each side it was then bounded by a soft edge which had the shape of a double curve, and in this form it remained, until with the onset of the headache it passed away. (You can scarcely fail to note how such a peculiar symmetrical medial loss of sight illustrates the essential unity of function of the higher visual centres.) But on many occasions the development of this spot of darkness was soon arrested on one side or the other, but always on one side only, by discharge. When the spot had extended to about half the vertical dimension of the field, a bright angled line appeared on one side, without colour, but limited by a narrow, black line on each side of the bright line. The zigzags which composed this were few and not regular. The central cloud increased and reached from top to bottom of the field; as it increased, the zigzag became more extensive, but did not move much from its first distance from the medial line, as if it interposed an obstacle to the development of the loss which it limited. On the other side, however, the loss spread more rapidly, and further than when there was no discharge, so that the ultimate result was extensive loss, bounded by a luminous line on one side, not far from the medial line, but on the other passing almost to the edge of the field. It was as if the resistance of the discharge had caused the inhibition to spread and diffuse itself over a much wider area. Symbolical as the words may seem, it is possible that they may be not far from the truth. Whenever this angled line of light appeared, the severe headache which followed was always on the opposite side to the spectrum, whichever that might be.

PERICENTRAL AND ARCH SPECTRA.

Although spectra scarcely ever develop at the fixing point itself, a spectrum around an object which occupies the fixing point is occasionally seen. A good illustration of this is presented in one of Beck's drawings, which is, I do not doubt, in this point quite trustworthy. A zigzag coloured spectrum suddenly surrounded a plate on the dinner-table before him. The quaint description he gives of it is this: "I remember well the phenomena appearing on the plate when I sat down to dinner with two friends. As I looked curious and nervous Mrs. B—— said, 'Why do you not carve?' On taking my eyes off the plate I said to them, 'The zigzag rainbow colours are gone out of the window.' This was the first time my wife and friends believed I saw something very extraordinary." The drawing shows that the spectrum surrounded the edge of the plate, and the same circular spectrum in a pane of the window at which he looked up. Concentric with the plate as first seen, it maintained the same form when he raised his eyes to the window, and then disappeared. This is

instructive, because the spectrum was evidently determined by the actual stimulation of the visual centres.

A spectrum in the form of an arch, in the mid position, above the centre, was also a frequent experience of Beck, and may be regarded as a segment of a pericentral spectrum. It is shown in one of his drawings as becoming divided in the middle, and there is a curious symmetry in the form on each side, by which the spectrum ceases. In both these forms we are compelled to think of the perfect conjunction in action of the two higher centres. Another form of this arched spectrum is shown in one of the diagrams as a sort of angled crown above the eye. It is a curious illustration of the tendency to regard these spectra objectively. The patient was a member of our own profession, and, in response to my request for a drawing of the aspect the spectra presented to him, he sent me an objective representation of his eye with the spectrum above it, in the position in which it could only be seen by another person. This involuntary sense of objectivity is a very curious feature.

THE LATERAL SPECTRUM.

One of the simplest forms of angled spectrum is that which appears at the true periphery of the field. It may be a short series of angles at the edge of the horizontal axis of the field or inclined. Moreover, it may extend in the manner described as that of the progressive spectrum, but, instead of progressing in the upward curve, as does that described in the middle zone, this peripheral spectrum, if it extends, curves downwards, as in Beck's curious figures. These also illustrate the tendency for such spectra to occur, in a similar manner, sometimes at one and sometimes on the other side, in corresponding form. His figures also show the strong tendency to regard a spectrum which appears in the periphery of the field to be at the extreme edge, even when it is so far from the edge as to permit of some further extension. You will also observe in Beck's drawing of what he regarded as the elementary forms of his "phenomenon," he represents a small lateral spectrum as attached to the outer junction of the eyelids. In one case an oblique lateral angled spectrum was drawn by the patient as commencing just within and extending beyond the limit of the field. It is clear that, even at the inner part of the peripheral zone, the spectrum seen seems as if it were quite at the margin of the field.

I have only touched upon the margin of the subject of this lecture. My hope is that this may serve as a beginning, that it may serve as a nucleus around which facts may gather, carefully recorded, carefully scrutinised, carefully sifted, and carefully classified. Only by such a collection of facts and observations, with discernment of the weight of correspondence, can come, in time any real knowledge regarding them. Alas, I must end, as I began, in ignorance, content if I have made you share my own perception of it. The knowledge of the way in which these spectra are produced, if time shall bring it, may bring us increased power to control not only them, but all of which they are the prelude. If I have opened the path for their systematic study I shall be more than content.

THE SOCIETY OF MEDICAL PHONOGRAPHERS.—Dr. Gowers has been elected President of the Society of Medical Phonographers, and will give an address on Writing and Short Writing in relation to Medical Work at an inaugural meeting of the society, to be held at 20 Hanover-square, London, on Tuesday, July 30th, at 4 P.M. The meeting will be open to any member of the profession who desires to attend. The society now numbers 160 persons.

THE DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—The annual general meeting and congress was held on May 30th at 20, Hanover-square, W., Dr. Pye-Smith, F.R.S., President, being in the chair. After the presidential address, the secretary (Dr. Stowers) and the treasurer (Mr. Alfred Cooper) read their reports, indicating the increasing prosperity of the society and its satisfactory financial condition respectively. It was unanimously resolved that in future the meetings should be held on the fourth Wednesday in the month instead of the second Thursday as heretofore. Dr. H. Radcliffe Crocker read a paper entitled "The Internal Therapeutics of Psoriasis and some other Diseases of the Skin," followed by a discussion, in which the President, Dr. Liveing, Dr. Stephen Mackenzie, Dr. Bowles, Dr. Payne, Mr. William Anderson, Dr. Brooke (Manchester) Dr. Abraham, Dr. Walsh, Dr. Harrison Clifton, and Dr. Mackey (Brighton) took part.

THE DIET OF TOIL.[1]

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IN a paper which deals with the alimentation of the labouring classes perfect accuracy is scarcely possible. Great difficulty is experienced in obtaining reliable facts; working men do not readily impart the information asked for. To medical friends in various parts of the country I sent schedules with a series of queries tabulated—e.g., nature of employment, hours of labour, wages, how many children to support, enumeration of articles of diet at each meal, and the quantity of each approximately stated. Most of the schedules have been returned. Upon this point I have to complain less of the hesitancy of the labouring classes than have the writers of the Memorandum in the Blue-book "Returns of Expenditure of Working Men, 1839," who only received thirty-six answers to 750 circulars distributed amongst members of coöperative boards. Perfect accuracy of the weight of articles partaken of at each meal is scarcely obtainable, and to that extent, therefore, the subject of the alimentation of labour cannot, in the following pages, be regarded as settled from the scientific point of view. The physiology of alimentation is fully dealt with in the various text-books. I am not dealing at present with the weight of the individuals concerned, nor with their food incomes and expenditure. In most cases only an approximate estimate of the quantities of the articles of food has been gained, but, taking the large number of dietetic returns that have been made, a fair average can be struck and a fairly accurate opinion formed. The facts thus obtained are not only useful, but interesting. Taking "standard diets" that have been worked out by physiologists for people in health during rest, also during medium and active work, I will compare the results. For a man weighing 70 kilogrammes—i.e., 11 st.—it is necessary that 700 grammes, or nearly 25 oz. avoirdupois, of solid food should be taken daily. This is distributed by physiologists[2] amongst (1) proteids or albuminous substances such as animal food, eggs, and milk; (2) fats; (3) carbohydrates—e.g., potatoes and starchy foods; and (4) salts, thus:—

Proteid.	Fat.	Carbohydrate.	Salts.
140	105	420	35

This is a liberal diet, especially as regards proteid.

During medium work the following are the standard diets:—

	Proteid.	Fat.	Carbohydrate.	Salts.
Moleschott	138	84	404	30
Pettenkofer and Voit ...	137	117	352	30
During severe work:—				
Moleschott	140	90	434	32
Ranke	100	100	240	25
And during very laborious work:—				
Smith and Playfair ...	184	71	570	40

A glance at the above shows that there is a considerable discrepancy between physiologists as regards the qualitative and quantitative composition of diet in health. Into the question of a "subsistence diet" I need hardly enter. Calculated as it is upon the internal needs of the organism, it has only a physiological interest. It is reproduced in the following table simply for the sake of comparison. It is insufficient for a man in health. Under its use emaciation would be quickly progressive. In considering the diet of rest it must be remembered that no active exercise is taken.

A subsistence diet:—

	Proteid.	Fat.	Carbohydrate.
Smith and Playfair	66	24	330
Diet of rest:—			
Smith and Playfair	100	50	400
Voit and Pettenkofer ...	137	72	352

Of all the diets thus enumerated, that of Moleschott, for medium work, is generally regarded as the best average diet for an adult man. It is necessary to remember that for every kilogramme of body weight there should be 2 grammes of proteid, 1·5 grammes of fat, 6 grammes of carbohydrate, and 0·5 gramme of salts—in all, about

[1] Part of this paper appeared in the *Fortnightly Review*, October, 1894, and is reproduced by permission.

[2] Waller's Physiology, p. 263.

10 grammes, or 1 per cent. of solid food. It is the carbon and nitrogenous elements in our food that undergo metabolism in the body. The materials ingested may therefore be regarded as so much carbon, nitrogen, hydrogen, and salts. In 100 grammes of proteid there are 53 of carbon, 16·1 of nitrogen, and 7·1 of hydrogen; in the same quantity of fat there are 76·5 of carbon and 10·9 of hydrogen; whilst in carbohydrate there are 44 of carbon.[3] Converting Moleschott's diet into terms of carbon and nitrogen, we get of nitrogen 20·9 grammes, carbon 307, and hydrogen 11·6. Roughly speaking, an average diet ought to contain in the form of food stuffs 20 grammes of nitrogen and 300 of carbon. One of nitrogen to 15 of carbon is regarded as the desirable proportion.[4] Hence, in combining meat (1—5) with bread (1—22) we get what forms the foundation of a good prosperity diet for all. In order to complete the diet fat should be added. A foundation day's diet, according to Waller, is—

	C. Grammes.	N. Grammes.
Bread, 1 lb. (450 grammes) ...	117	5·5
Meat, ½ lb. (225 grammes) ...	34	7·5
Total	151	13·0
And if fat is added—say, ¼ lb. (bacon, butter), viz.	84	—
We have a total for the day of ...	235	13·0

As an illustration of a fundamental English diet we may take the following:—

	C. Grammes.	N. Grammes.
Foundation—1 lb. bread ...	117	5·5
½ lb. meat... ...	34	7·5
¼ lb. fat	84	—
Accessories—1 lb. potatoes ...	45	1·3
½ pint milk ...	20	1·7
1 lb eggs	15	2·0
½ lb. cheese ...	20	3·0
	335	21·0

A liberal diet, and the cost of which is about a shilling.

In order to obtain a general idea of the quantity of the various articles presented to an adult man at his meals I got one of the nurses in the medical ward of the Newcastle Infirmary to weigh the contents of a few of the platefuls given to convalescent patients, and this is her average: a slice of a 4-lb loaf, ¾ to 1 in. in thickness, weighs 2½ oz., or 70·87 grammes; an ordinary plateful of meat without bone weighs 4½ oz., or 127·54 grammes; and an ordinary plateful, or three medium-sized potatoes, weighs 8 oz., or 225 grammes. One ounce of butter was sufficient to cover three to four slices of bread. In contrasting the dietaries of those engaged in the various industries, we shall begin with the agricultural labourer. The agricultural labourers of Scotland are, as a class, healthy and temperate; they receive small weges. The wages of the Irish agricultural labourer are smaller than those of the English or Scotch, and his dietary is altogether poorer. Living, as many of them do, upon Indian meal mixed with white flour, potatoes, and tea, and seldom partaking of animal food, we have an explanation of their inability to compete in muscular effort with the Englishman and of their liability to contract low fever. Potatoes still form the staple diet of the Irish peasant, and whilst, to a certain extent, these are capable of replacing bread and butter, and are rich in carbon, they are extremely poor in nitrogen. In the 10 lb. of potatoes consumed daily by an Irish labourer there would be 450 grammes of carbon and 17 of nitrogen; but notwithstanding this he would be ill-fed and would require fat. I will give illustrations of the dietaries supplied to me in every instance from authentic sources.

TABLE I.—*English Agricultural Labourers.*

(Data supplied by Mr. Theodore Cookson, J.P., Sturford Mead, Warminster.)

No. 1, aged thirty-three years; wages, 13*s.* 9*d.* per week; no children; house rent, £4 10*s.* a year; works ten hours a day.

No. 2, aged forty-two years; has six children, three of whom are working; wages, 14*s.* per week; works ten hours a day.

(No. 1.)	C. Grammes.	N. Grammes.
BREAKFAST—		
1 pint tea (with sugar) ...	12·0	—
6 oz. bread	43·8	2·1
¼ lb. bacon	82·0	0·4
1 egg	7·5	1·0
DINNER—		
½ lb. potatoes	22·5	0·6
¼ lb. bacon	82·0	0·4
Very occasionally meat ...	—	—
2 oz. cheese	2·0	3·0
4 oz. bread	29·2	1·3
TEA—		
1 pint tea	12·0	—
4 oz. bread	29·2	1·3
SUPPER—		
2 oz. cheese	20·0	3·0
2 oz. bread	14·7	0·6
	374·9	13·7

A fairly good diet, but deficient in nitrogenous material.

(No. 2.)	C. Grammes.	N. Grammes.
BREAKFAST—		
1 pint of tea	12·0	—
8 oz. bread	58·4	2·6
6 oz. bacon	123·0	0·6
DINNER—		
12 oz. potatoes	32·7	0·9
1 pint tea	12·0	—
4 oz. bread	29·2	1·3
TEA—		
8 oz. bread	58·4	2·6
Tea	12·0	—
½ oz. butter	10·0	—
	348·7	8·0

Very poor in nitrogenous material.

When the English agricultural labourer has no children he is apparently able to feed pretty well. He consumes large quantities of carbon, principally in the form of fat. He eats largely of bread and cheese. In his garden or allotment he raises a sufficient supply of potatoes and vegetables for his family. On the necessaries of life and house rent he spends 67 per cent. of his wages. The diet of an Ayrshire ploughman (facts per Dr. Wylie) is as follows:—

TABLE II.—*Ayrshire Ploughman (No. 3).*

Aged fifty, has five children, none working; wages, 15*s.* a week, free house; hours of labour, twelve.

	C. Grammes.	N. Grammes.
BREAKFAST—		
Porridge (½ lb. oatmeal) ...	99·6	4·4
½ pint milk	20·0	1·7
DINNER—		
Broth	(?) 10·0	0·6
½ lb. meat	34·0	7·5
¾ lb. potatoes	33·7	0·9
TEA—		
Porridge	99·6	4·4
½ pint milk	20·0	1·7
½ pint tea	6·0	—
4 oz. bread	29·2	1·3
½ oz. butter	10·0	—
	362·1	22·5

An excellent diet for a man who is doing hard work and spending most of his time in the open air. According to his wife's statement 80 per cent. of the wages is spent upon food.

Agricultural Labourer, Island of Coll, N.B. (No. 4).

Wages 12*s.* Has seven children; two at farm service. Rent of house £3 a year. Works ten to eleven hours a day. Data supplied by Mr. Smith, Coll.

	C. Grammes.	N. Grammes.
BREAKFAST—		
Tea	12·0	—
Scones (or ½ lb. bread) ...	58·5	2·7
½ oz. butter	10·0	—
2 eggs	15·0	2·0
Jam	—	—

[3] According to Ranke fat contains 79 per cent. of carbon and carbohydrate—e.g., starch—37 of carbon.

[4] Where an analysis of food is supplied, but only nitrogen is mentioned, then, in order to express this in terms of proteid, it is necessary to multiply the amount of nitrogen by 6·5.

	C. Grammes.	N. Grammes.
DINNER—		
Tea	6·0	—
8 oz. potatoes...	22·5	0 6
½ lb. fish (white)	11·5	7 6
½ pint milk	20·0	1·7
TEA—		
1 pint tea	12·0	—
8 oz. bread	58 5	2·7
½ oz. butter	10·0	—
	236·0	17 3
Add for jam !	20·0	—
	256 0	17 3

Opposed to these we shall take the diet tables of an Ayrshire shepherd, whose life is spent on the hills, far removed from either town or village.

TABLE III.—*Ayrshire Shepherd (No. 5).*

	C. Grammes.	N. Grammes.
BREAKFAST—		
1 pint tea	12 0	—
½ lb. bread (scones)	58 5	2·7
Oatcake, 1 oz. meal, &c. ...	11 5	0 5
½ oz. butter	10 0	—
4 oz. cheese or meat	40 0	6 0
DINNER (in winter and spring)—		
12 oz. potatoes	33·7	0 9
¾ lb. meat	51·0	8 2
(At other seasons tea, scones, and butter.)		
TEA—		
Tea	12 0	—
¼ lb. scones	29 2	1·3
Oatcake...	11 5	0·5
½ oz. butter	10 0	—
Cheese, jam	20 0	3 0
SUPPER—		
Tea	12 0	—
Scones	29 2	1·3
Butter	10 0	—
	350 6	24 4

Northumbrian Hind (No. 6).

	C. Grammes.	N. Grammes.
FIRST BREAKFAST (5 A.M.)—		
Porridge (¼ meal)	50·0	2·2
Milk	20 0	1 7
SECOND BREAKFAST (8 A.M.)—		
Tea	12 0	—
Bread (2 slices = ¼ lb.) ...	29·2	1·3
½ oz. butter	6 6	—
DINNER—		
6 oz. potatoes	16·5	0 5
6 oz. bacon	123 0	0 6
TEA—		
Tea	12 0	—
Bread	29 2	1·3
½ oz. butter	6 6	—
SUPPER—		
Bread and milk...	24 6	0 8
	329·7	8 4

The following note on the Irish peasantry is supplied by the Rev. Father Lawton, Killorglin: "The dietary of the labouring classes has greatly improved these latter years. Flour is exceedingly cheap, and the poorest have mixed bread—i.e., half flour and Indian meal[3]—for breakfast and supper; potatoes and milk for dinner, with salt fish occasionally, and American pork at least once a month. Tea is used by all classes for breakfast, and the old people use it also for supper. Farmers give their servants a better scale of dietary: flour bread for breakfast, and meat with cabbage twice a week for dinner." In another private letter from Mr. Walker of Glenbigh I am told: "Their food is principally milk and bread made of Indian meal and flour morning and evening, and milk and potatoes in the middle of the day. The very poorest of the people somehow manage to keep a Kerry cow or two, and have sufficient land, such as it is, to grow a sufficient supply of potatoes and cabbages."

[3] Indian meal contains a smaller percentage of nitrogen and carbon than wheaten flour, but the difference is only 3 per cent.

TABLE IV.—*Irish Peasantry (No. 7).*

	C. Grammes.	N. Grammes.
BREAKFAST—		
8 oz. bread (flour and Indian meal)	55 0	2·4
Tea	12·0	—
DINNER—		
1 lb. potatoes	45·0	1·3
¾ pint milk	30 0	2·5
½ lb. white fish	11 5	7·6
TEA—		
Tea	12·0	—
Bread	55·4	2 4
	220 9	16 2

In winter, when living on salted fish, there would be a reduction of 10 grammes of carbon and 2 of nitrogen.

(No. 8)	C. Grammes.	N. Grammes.
BREAKFAST—		
1 lb. potatoes	45 0	1 3
¾ pint milk	30 0	2 5
Melted lard	10 0	—
DINNER—		
1 lb. potatoes	45·0	1·3
1 pint milk	40 0	3·4
Lard	10 0	—
TEA—		
1 lb. potatoes	45·0	1·3
Tea	12 0	—
4 oz. bread (Indian meal or flour)	27 5	1 2
	264 5	11 0

Deficient in nitrogen.

As it is upon the proteid or nitrogenous elements in food that the greatest value is placed as an article of diet, I observe that the Scotch farm labourer and the shepherd are the best fed of all the agricultural labourers, and, so far as the consumption of bread, oatmeal, and potatoes is concerned, the Scotchman gets most for his money, the Irishmen the least. Of all the agricultural labourers, the Scotch are the best fed.

In dealing with the feeding of coal miners I have deemed it advisable to obtain statistics from different collieries in Northumberland and Durham.

TABLE V.—*Coal Miners.*

(Facts supplied by Dr. Messer, Lemington-on-Tyne, Dr. Blair, Ashington, and Mr. Colquhoun, Spen.)

A hewer, earning 55*s.* a week; one child not working; rent of house, £10 a year; six hours' labour; can save money; is temperate.

(No 9.)	C. Grammes.	N. Grammes.
BREAKFAST—		
Tea	12·0	—
½ lb. bread	58 5	2 7
¼ lb. bacon	82 0	0 4
2 eggs	15 0	2 9
DINNER—		
Broth ... ... (?)	7 0	0 6
½ lb. beef...	34 0	7 5
½ lb. potatoes	22 5	0 6
Suet pudding	25 0	1 3
TEA—		
Tea	12 0	—
6 oz. bread	43 8	2 2
Preserves... ... ... (?)	20 0	—
SUPPER—		
4 oz. bread	29 2	1 3
½ pint milk	10 0	0 8
2 oz. cheese	20 0	3 0
	391 0	22 4

Coal hewer; wages, 40*s.*; no children; rent £15 a year; six hours' work a day; can save; is temperate.

(No. 10)	C. Grammes.	N. Grammes.
BREAKFAST—		
Coffee	12 0	—
6 oz. bread	43 8	2·2
½ oz. butter	10 0	—
¼ lb. bacon	82 0	0 4

	C. Grammes.	N. Grammes.
DINNER—		
½ lb. meat	34 0	7 5
6 oz. potatoes	17 0	0 5
Suet pudding	25 0	1 3
TEA—		
Tea	12 0	—
¼ lb. bread	29 2	1 3
½ oz. butter	10 0	—
2 eggs	15 0	2·0
SUPPER—		
4 oz. bread	29 2	1·3
½ oz. butter	10 0	—
Coffee	12 0	—
Cold meat	(?) 25 5	5 6
	366 7	22 1

TABLE VI.—*Coal Miner's Labourer (No. 11).*

Labourer at a coal mine, earning 28*s.* a week; paying £12 a year rent; ten hours' labour; seven children, one working; cannot save, is intemperate, and given to gambling.

	C. Grammes.	N. Grammes.
BREAKFAST—		
Tea	12·0	—
10 oz. bread (no butter)	73 0	3·4
DINNER—		
¼ lb. meat	8 5	1·8
¾ lb. potatoes	34·0	1·0
Suet pudding	25 0	1·3
TEA—		
Tea	12 0	—
8 oz. bread	58 5	2 7
Butter	(?) 10 0	—
No supper	—	—
	233 0	10 2

Is underfed; diet is deficient in both carbon and nitrogen.

It may be said of coal miners, as a class, that they feed well, and that they believe in the necessity of taking every day a fairly large quantity of animal food, particularly beef.

Compared to the dietary of the collier, that of the English navvy stands out remarkably well. At present, the North-Eastern Railway Company is widening its line a few miles from Newcastle. Many of the navvies live in Felling-on-Tyne, and thus I have been able to obtain, through Mr. Thomson of Felling, an authentic statement as to the character and quantity of their food.

TABLE VII.—*English Navvy (No. 12).*

	C. Grammes.	N. Grammes.
FIRST BREAKFAST (5 30 A.M.)—		
Tea	12 0	—
4 oz. bread	29 2	1·3
½ oz butter	10 0	—
SECOND BREAKFAST (8.30 A.M.)—		
Tea	12 0	—
6 oz. bread	43 8	2 2
½ oz. butter	10 0	—
6 oz ham	46 0	3 8
DINNER (12 noon)—		
Tea	12 0	—
8 oz bread	58·5	2 7
½ lb. meat	34 0	7 5
SUPPER (6 P.M.)—		
½ lb. meat	34 0	7 5
1 lb. potatoes	45 0	1·3
Vegetables—cabbage	(?) 6 4	0 5
2 pints beer per diem	23 0	0 8
	380 9	27 6

His average purchases for the week are 6½ lb. beef, 4 small loaves, 1½ lb. sugar, 1 quart milk, 12 eggs, ½ lb. butter, 1 lb. cheese, 2 or 3 lb. ham, and ½ stone potatoes. As potato-eaters navvies vary; some consume as much as a stone of potatoes in the week.

In the case of iron and steel workers we have a body of men whose work is hard and whose wages are good. By this means they are able to procure substantial food, and when temperate can save out of their wages. The facts as to dietary have been supplied to me by Dr. Messer of Lemington-on-Tyne.

TABLE VIII.—*Iron and Steel Workers (No. 13).*

A forgeman; wages, 35*s.*; has three children; works twelve hours a day; rent 4*s.* a week; is steady; can save.

	C. Grammes.	N. Grammes.
BREAKFAST—		
Tea	12 0	—
4 oz. bread	29 2	1·3
4 oz. bacon	82 0	0 4
DINNER—		
¾ lb. meat	51·0	11·2
6 oz potatoes	17 0	0 5
¾ lb. rice pudding	30 0	0 9
TEA—		
Tea	12 0	—
4 oz. bread	29·2	1 3
½ oz. butter	10 0	—
SUPPER—		
½ pint coffee	6 0	—
2 oz. bread	14 6	0 6
Cold meat	(?) 8·5	1 8
	301 5	18·0

A Steel Smelter (No. 14).

A steel smelter; wages 50*s.* a week; no children; rent 4*s.*; works twelve hours a day; is very temperate; can save.

	C. Grammes.	N. Grammes.
BREAKFAST—		
Coffee	12 0	—
4 oz. bread	29 2	1 3
4 oz. bacon	82·0	0 4
DINNER—		
½ lb. meat	34 0	7·5
Broth	10·0	0 5
6 oz. potatoes	17 0	0 5
Rice pudding	30 0	0·9
TEA—		
Tea	12 0	—
4 oz. bread	29 2	1 3
½ oz. butter	10 0	—
SUPPER—		
Cold meat	8 5	1·8
2 oz. bread	14 6	0·6
Coffee	6 0	—
	294 5	14 8

As a contrast to these, take the dietary of an engineer's assistant, an inmate of the Newcastle Infirmary, aged seventeen, a fitter's apprentice; father earns 34*s.*, but the youth only receives 8*s.*; works nine hours a day; takes no food before commencing work.

TABLE IX.—*Engineer's Assistant (No. 15).*

	C. Grammes.	N. Grammes.
BREAKFAST—		
Tea	12 0	—
4 oz. bread	29 3	1·3
½ oz butter	10 0	—
Preserves	15·0	—
DINNER—		
¼ lb. meat	17 0	3 7
6 oz. potatoes	17 0	0 5
½ lb. rice pudding	20 0	0 7
TEA—		
Tea	12 0	—
6 oz. bread	43 8	2·1
½ oz. butter	10 0	—
Preserves	15 0	—
	201 1	8·3

This lad is underfed, but it is owing to inability to take food. For months his health has been delicate. He has lately developed tuberculous disease.

TABLE X.—*Glass Worker (No. 16).*

Glass worker (per Dr. Messer), wages 40*s.*; rent of house, 4*s.*; has four children; seven hours' labour; is unsteady; does not save.

	C. Grammes.	N. Grammes.
BREAKFAST—		
Tea	12 0	—
6 oz. bread	43 8	2·1
½ oz. butter	10·0	—

	C. Grammes.		N. Grammes.
DINNER—			
½ lb. meat	34·0	.....	7·5
6 oz. potatoes	17·0	.....	0·5
TEA—			
Tea	12·0	.....	—
6 oz. bread	43·8	.....	2·1
Butter	10·0	.....	—
SUPPER—			
Coffee	12·0	.....	—
4 oz. bread	29·2	.....	1·3
Butter	5·0	.....	—
	228·8	.....	13·5

From a young brickyard labourer, who was admitted into the Newcastle Infirmary, having fallen from a scaffolding, I obtained the following.

TABLE XI.—*A Young Bricklayer (No. 17).*

His work consists in filling wagons with clay; wages 13*s*; lives at home with his parents. Hours, 6 A.M. to 5 P.M., with intervals for meals.

	C. Grammes.		N. Grammes.
BREAKFAST—			
Tea	12·0	.....	—
¼ lb. bacon	82·0	.....	0·4
6 oz. bread (no butter) ...	43·8	.....	2·1
DINNER—			
½ lb. meat	17·0	.....	3·7
8 oz. potatoes	22·0	.....	0·7
TEA—			
Tea	12·0	.....	—
6 oz. bread	43·8	.....	2·1
½ oz. butter (occasionally cheese)	10·0	.....	—
SUPPER—			
Coffee	6·0	.....	—
2 oz. bread	14·6	.....	0·6
¼ lb. butter	5·0	.....	—
	268·2	.....	9·6

Deficient in nitrogen for a growing youth.

For the following diet tables of the steel grinders I am indebted to Dr. Porter of Sheffield.

TABLE XII.—*Steel Grinders, Sheffield.*

A dry grinder; wages 30*s*; nine hours' labour; rent 6*s*. 2*d*.; has two children; is a moderate drinker.

A Dry Grinder (No. 18).

	C. Grammes.		N. Grammes.
BREAKFAST—			
Tea...	12·0	.....	—
6 oz. bread	43·8	.....	2·1
½ oz. butter	10·0	.....	—
¼ lb. bacon	82·0	.....	0·4
DINNER—			
6 oz meat	25·5	.....	5·5
4 oz. potatoes	11·2	.....	0·3
½ lb. rice pudding	20·0	.....	0·7
TEA—			
Tea...	12·0	.....	—
4 oz. bread	29·2	.....	1·3
½ oz. butter	10·0	.....	—
1 egg	7·5	.....	1·0
SUPPER—			
2 oz. bread	14·6	.....	0·6
2 oz. cheese	20·0	.....	3·0
Milk or beer	10·0	.....	0·8
	307·8	.....	13·0

A table blade grinder (wet process); wages 30*s*., sometimes more; nine hours' work; rent 3*s*. 6*d*.; is very intemperate; has three daughters to support.

A Wet Grinder (No. 19).

	C. Grammes.		N. Grammes.
BREAKFAST—			
Seldom takes any breakfast, but when he does it is tea ...	12·0	.....	—
2 oz. bread	14·6	.....	0·7
¼ oz. butter	5·0	.....	—
DINNER—			
½ lb. meat	34·0	.....	7·5
½ lb. potatoes	11·2	.....	0·3
1 pint beer	14·0	.....	0·4
TEA—			
Tea	12·0	.....	—
6 oz bread	43·8	.....	2·1
½ oz. butter	10·0	.....	—
SUPPER—			
2 oz. bread	14·6	.....	0·6
2 oz. cheese	20·0	.....	3·0
1 pint beer	14·0	.....	0·4
	205·2	.....	12·3

A scissor grinder (wet and dry); wages, 30*s*.; nine hours' work; rent, 5*s*. 3*d*.; has two daughters to support.

A Scissor Grinder (No. 20).

	C. Grammes.		N. Grammes.
BREAKFAST—			
Tea	12·0	.....	—
6 oz bread	43·8	.....	2·1
¼ lb. bacon	82·0	.....	0·4
DINNER—			
½ lb. meat	34·0	.....	7·5
6 oz. potatoes	17·0	.....	0·5
Rice pudding	20·0	.....	0·7
TEA—			
Tea	12·0	.....	—
4 oz. bread	29·3	.....	1·3
½ oz. butter	10·0	.....	—
SUPPER—			
Boiled milk	40·0	.....	3·4
	300·1	.....	15·9

The steel grinders, as a class, are apparently small nitrogen consumers. Their work is not hard.

It is amongst female lead workers that we find the dietary reduced to almost a starvation level; not so much on account of the wages they receive, but due to the fact that they are generally the breadwinners of the family. Many of them are widows, with a family to support; others are married, and their husbands are either out of work or indolent.

TABLE XIII.—*Lead Workers (No. 21).*

	C. Grammes.		N. Grammes.
BREAKFAST (supplied by employer)—			
Tea	12·0	.....	—
4 oz bread	29·2	.....	1·3
(?) ½ oz. butter	5·0	.....	—
DINNER—			
4 oz. bread	29·2	.....	1·3
12 oz. potatoes	34·0	.....	1·0
Tea	12·0	.....	—
Very occasionally, 4 oz. meat, or cheese	17·0	.....	3·7
TEA—			
Tea	12·0	.....	—
4 oz. bread	29·2	.....	1·3
½ oz. butter	10·0	.....	—
	189·6	.....	8·6

CASE 1.—A woman aged thirty-three years, at present under my care for double "wrist-drop" or paralysis, a widow; she has no children; wages, 2*s*. 6*d*. per day; generally works three days a week; pays 2*s*. for her room, and has, therefore, 5*s*. 6*d*. left to feed and clothe herself.

(No. 22.)	C. Grammes.		N. Grammes.
BREAKFAST—			
Tea	12·0	.....	—
1 oz. bread	7·3	.....	0·4
DINNER—			
Tea	12·0	.....	—
4 oz bread	29·2	.....	1·3
No butter	—	.....	—
2 oz. bacon	41·0	.....	0·2
TEA—			
Tea	12·0	.....	—
4 oz. bread	29·2	.....	1·3
½ oz. butter	10·0	.....	—
Could not afford supper.			
	152·7	.....	3·2

CASE 2.—A woman aged twenty-five years, suffering from lead colic and headache; married; has two children, a baby at the breast; worked four days a week, at 2*s*. 3*d*. = 9*s*. per

week; husband out of work for the last nine months; rent of room, 1*s.* 6*d.* per week; paid 8*d.* a day to woman to look after her baby, but not for the feeding of it. Her expenses, therefore, were 4*s.* 2*d.* a week, leaving 4*s.* 10*d.* to provide food &c. for herself, husband, and two children. Is a small eater; could scarcely take breakfast owing to a metallic taste in mouth in the morning.

(No. 23)	C. Grammes.	N. Grammes.
BREAKFAST—		
Tea	12 0	—
4 oz. bread (no butter)... ...	29 2	1·3
DINNER—		
Tea	12·0	—
6 oz. bread	43 8	2·1
Very occasionally meat or bacon, sometimes a little fat	21·0	—
TEA—		
Tea	12·0	—
4 oz. bread	29·2	1·3
½ oz. butter	10 0	—
	169 2	4 7

CASE 3.—A woman aged thirty-one years, married, three children; suffered from lead "colic" after drawing eight stoves, and was obliged to desist. The husband, a labourer, is out of employment. The patient got 2*s.* 3*d.* a stove; worked two days a week—i.e., wages 4*s.* 6*d.*, but had only earned 18*s.* in the month when taken ill.

(No. 24.)	C. Grammes.	N. Grammes.
BREAKFAST (taken at factory)—		
Tea	12·0	—
4 oz. bread	29·2	1·3
Butter	(?) 5·0	—
DINNER—		
6 oz. bread	43·8	2·1
Tea	12 0	—
2 oz. meat (occasionally) ...	8·5	1·0
TEA—		
4 oz. bread	29·2	1·3
Tea	12 0	—
Butter	(?) 5·0	—
	156 7	5·7

CASE 4.—A woman aged eighteen years, suffering from lead colic; the father generally was out of employment; the mother sells fish, and makes about 5*s.* 6*d.* a week. The patient's own earnings are from 9*s.* to 10*s.* a week.

If it is necessary that an adequate food allowance should contain 300 grammes of carbon and 20 grammes of nitrogen, the dietary of the female lead worker contrasts badly. If the diet of needlewomen in the East-end of London be spoken of as a "starvation diet" when it contains 200 grammes of carbon, and 9 of nitrogen, the bill of fare of a female lead worker is a sad illustration of how body and soul have to be kept together on the lowest amount of food possible. In the scanty feeding of these women and their inability to take food lies one of the principal reasons why they so soon become a prey to the metallic poison. It has been demonstrated that if a proper supply of food be taken, and particularly before commencing work in the morning, the chances of plumbism developing are diminished. Dangerous as working in a white-lead factory may be, it is doubtless poverty and bad feeding that predispose the operative to succumb to the effects of lead, and if there is one thing that may be regarded as the best preventive it is employers of labour giving to their "hands," before commencing work, breakfast consisting of either warm milk and bread, or coffee with milk and bread and butter.

The textile industries resemble each other in so far as the labour is nearly all done by machinery, and the work of the operative, therefore, is simply to tend two or three machines. The work is carried on in large rooms, frequently overheated, and at times not too well ventilated. In some of the factories, where very fine spinning is done, the atmosphere is not only too warm, but it is too moist. The cotton-spinners of Lancashire are, as a class, well paid and well fed. Both the men and women are pale through working in the overheated rooms. Take, as a typical case, the following dietary of an unmarried female cotton weaver, supplied by Dr. Garner, Preston, to whom I am indebted for much of the above information:—

TABLE XIV.—*Workers in the Cotton Factories.—A Female Weaver (No. 25).*

This is one of the best samples of a cotton weaver's diet. The operative in question has an exceedingly comfortable home, being one of three daughters, all working; goes home for dinner.

"Morning bite," eaten generally on way to factory.	C. Grammes.	N. Grammes.
1 slice bread...	14·6	0·6
½ oz. butter	5 0	—
BREAKFAST—		
Tea	12·0	—
4 oz. bread	29 2	1·3
½ oz butter	10 0	—
DINNER—		
6 oz. meat	25 5	5·5
8 oz. potatoes	22·5	0 6
Rice pudding	20 0	0 7
TEA—		
Tea	12 0	—
4 oz. bread	29 2	1 3
½ oz. butter	10 0	—
Less than ½ lb. herrings or other fish	(!) 14·0	4·0
SUPPER—		
1 pint beer	14·0	0·4
1 slice bread	14 6	0 6
Cheese	13 0	2 0
	245 6	17 0

This is slightly above the average female dietary, and if we add to it one-fourth of total diet for the day we get the average for male cotton-spinners—viz., 333 grammes of carbon and 24 of nitrogen; but as fish would not be taken every night for tea the dietaries would stand thus: 252 6 grammes of carbon and 15·2 nitrogen for the female; 315 carbon and 19 grammes of nitrogen for the male.

As opposed to this, take the case of a single woman aged twenty-six years, who is suffering from incipient phthisis, but is yet following her occupation. Her wages are 14*s.* to 18*s.* a week, and the rent of her house is 4*s.* 6*d.*

(No. 26.)	C. Grammes.	N. Grammes.
"Morning bite," a drink of tea or milk, taking nothing to eat ...	12·0	—
BREAKFAST—		
Tea	12 0	—
2 oz. bread	15 0	0 7
½ oz butter	10 0	—
Occasionally one egg	7 5	1·0
At 11 A.M. thin slice of bread and butter	12·5	0 4
DINNER (taken at the mill)—		
4 oz. bread	29·2	1·3
½ oz. butter	10 0	—
Tea	12 0	—
Very occasionally ¼ lb. meat ...	17 0	3 7
TEA—		
Tea	12 0	—
4 oz. bread	29 2	1 3
½ oz. butter	10 0	—
	188 4	8·4

For the dietaries of lace workers I am indebted to Dr. Hunter of Nottingham. They work ten hours a day; the wages of the men are about 40*s.* a week; girls earn from 6*s.* to 15*s.*; rent of house, 4*s.* 9*d.* to 6*s.* The men do not save money unless in those cases where the daughters are also working.

TABLE XV.—*Lace Workers (No. 27).*

	C. Grammes.	N. Grammes.
BREAKFAST—		
Tea	12 0	—
8 oz. bread	58·5	2·7
½ oz. butter	10 0	—
Occasionally one egg	7 5	1·0
DINNER—		
½ lb. meat	34 0	7·5
½ lb. potatoes	22 5	0 6
Pudding	20 0	0 7

	C. Grammes.		N. Grammes.
TEA—			
Tea	12·0	.....	—
4 oz. bread	29 2	.....	1·3
½ oz. butter	10·0	.....	—
SUPPER—			
2 oz. bread	14·6	.....	0 6
1 pint beer	14·0	.....	0 4
Cheese ... ... (?)	10·0	.....	1·6
	254·3	.....	16 4

The men engaged in the woollen industries in and around Bradford apparently feed well. Their hours of labour vary from ten to ten and a half a day, their wages from 18*s.* to 32*s.* a week, and their house rent from 3*s.* to 4*s.* 6*d.* Dr. Hunter of Pudsey tells me that "as a class the spinners and weavers are exceedingly temperate and save a fair amount of their wages, which they either deposit in the bank, spend on fine clothes, or in frequent excursions and holiday-making."

TABLE XVI.—*Workers in Wool Factories (No. 28).*

A cloth miller aged forty years; wages 18*s.*; rent of house (including rates), 4*s.* 6*d.*; has two children, not working.

	C. Grammes.		N. Grammes.
BREAKFAST—			
Tea	12·0	.....	—
6 oz. bread	43 8	.....	2·1
½ oz. butter	10·0	.....	—
DINNER—			
½ lb. meat	34 0	.....	7·5
Yorkshire pudding	18·8	.....	1 2
8 oz. potatoes	22 5	.....	0 6
TEA—			
Tea	12·0	.....	—
4 oz. bread	29 2	.....	1 3
½ oz. butter	10 0	.....	—
SUPPER—			
Oatmeal porridge and milk ...	28 9	.....	1 5
	221 2		14 2

A spinner aged forty-six years; wages 32*s.* per week; working ten hours a day; has seven children; two are working, earning between them 38*s.* a week; rent of house, 4*s.* 6*d.*, including rates:—

(No. 29.)	C. Grammes.		N. Grammes.
BREAKFAST—			
Tea	12 0	.....	—
6 oz. bread	43 8	.....	2·1
½ oz. butter	10 0	.....	—
¼ lb. bacon	82·0	.....	0 4
DINNER—			
½ lb. meat	34·0	.....	7 5
½ lb. potatoes	22 5	.....	0·6
Yorkshire pudding	18 8	.....	1·2
TEA—			
Tea	12·0	.....	—
4 oz. bread	29·2	.....	1·3
½ oz. butter	10 0	.....	—
SUPPER—			
½ pint milk	20 0	.....	1 7
2 oz. bread	14·6	.....	0 6
½ oz. butter	5 0	.....	—
1 oz. treacle	20 0	.....	—
	333 9	.....	15 4

Treacle is largely used by the woollen spinners, also by the cotton operatives. As it contains a good deal of saccharine matter it is extremely nutritious.

From the Bradford Infirmary Reports I observe that the diseases which affect the woollen industries are similar to those met with amongst the cotton operatives. Of the general diseases, the most frequent is anæmia affecting women, and next to this pulmonary complaints and nervous diseases. Opposed to these various tables of the diet of toil I shall place two starvation diets which have come under my own observation.

TABLE XVII.—*Starvation Diets.*

CASE 1.—A man was admitted into the Newcastle Infirmary, under my care, suffering from a purpuric rash on the skin and commencing phthisis. His wages had been 9*d.* a day, or 5*s.* 3*d.* a week; he paid for his room 4*d.* a day, or 2*s.* 4*d.* a week, leaving him, therefore, with only 2*s.* 11*d.* a week to live upon. He took two meals daily, but had no great appetite; was temperate. From January to June, 1894, he only once ate potatoes and green vegetables.

(No. 30.)	C. Grammes.		N. Grammes.
BREAKFAST (8 P.M.)—			
Tea	12 0	.....	—
4 oz. bread	29 2	.....	1·3
TEA (5 P.M.)—			
Tea	12 0	.....	—
¼ lb. meat	17·0	.....	3 7
6 oz. bread	43·8	.....	2 1
	114·0		7 1

CASE 2.—This was that of a widow aged twenty-nine, who lost her husband nine months previously. She has three children; is a dressmaker; wages 8*s.* to 9*s.* a week; hours 8.30 A.M. to 6 P.M.; rent 4*s.* 3*d.* She has, therefore, only 4*s.* 9*d.* a week to support herself and three children, and were it not for the occasional gift of a loaf of bread from a friend for whom she does a little dressmaking in her spare hours, and a little help from a grandparent, she would find it very difficult to make ends meet. She is pale, but on the whole well nourished; is a small eater, and has very little appetite.

(No. 31.)	C. Grammes.		N. Grammes.
BREAKFAST—			
Tea	12·0	.....	—
1 slice bread, toasted (no butter)	14 6	.....	0·6
DINNER—			
1 oz. bacon	21 0	.....	0 1
3 oz. bread	22 2	.....	0 9
¼ pint milk	5 0	.....	0 4
TEA—			
Tea	12·0	.....	—
2 oz. bread	14 6	.....	0·6
½ oz. butter	5 0	.....	—
SUPPER (seldom)—			
A saucerful of porridge and milk	8·0	.....	0 4
	114 4	.....	3 0

As the average daily output of a man weighing 70 kilogrammes or 11 st. is 230 grammes of carbon and 15 of nitrogen, it is clear that if his health and bodily weight are to be maintained his daily diet must contain these elements in the proportion mentioned. But for the maintenance of nitrogenous equilibrium it is not required that the loss of nitrogen from the system should just be balanced. If nitrogen is not sufficiently supplied in the food it will still continue to be eliminated, its source being the metabolism of the tissues that contain it. The nitrogen import has to be considerable in order that the equilibrium may be maintained—viz., three times the amount of nitrogen excreted when no food is taken. The channels by which this element leaves our body are the kidneys, intestine, lungs, and skin; nearly the whole of it comes away by the kidneys in the form of urea, so that the quantity of urea eliminated is taken as the measure of nitrogenous disassimilation of the system. Thirty grammes or 500 grains of urea are regarded as the normal daily amount, and in 30 grammes of urea there are 14 of nitrogen. Add to this the quantity that leaves by the intestine—viz., 10 per cent. of the total nitrogen eliminated—and we have an accurate statement as to the daily nitrogen export, for the amount discharged by the lung in the form of ammonia in the expired air is infinitesimal, and the same remark applies to escape by the skin. What we recognise as a result of examination of the diet tables of the industries is that, with few exceptions, the individuals are not taking in their food that excess of proteid or animal food necessary to maintain their nitrogenous equilibrium; also, that poor people when long underfed become accommodated to a low minimum, and that health seems even for a time to be thus well maintained, although, in many of the cases tabulated, where the nitrogen import was for a lengthened period at a minimum the individuals, to my knowledge, subsequently became the subjects of tuberculous disease.

Ellison-place, Newcastle-upon-Tyne.

ON THE MICRO-ORGANISM OF CANCER.

BY JAMES BRAITHWAITE, M.D. LOND.,

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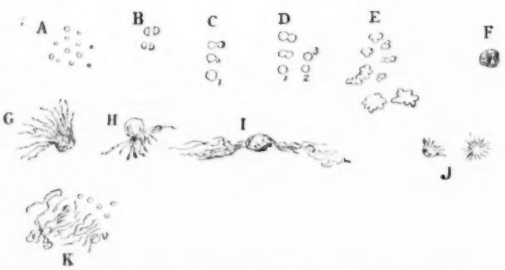
ALTHOUGH I have left my mind open on the question I have never believed in the existence of a micro-organism as the cause of cancer until I recently had the opportunity of watching the rapid spread at its edge of a very superficial epithelioma on the vulvar mucous membrane. The activity seemed to be chiefly at the margin of the disease, and its appearance and almost daily invasion of fresh territory convinced me that some infective agency must be at work. The border of the disease was not only brighter in colour than the centre, but it was more raised and appreciable to the touch; the disease, moreover, increased not by the old part growing, but by the invasion of apparently healthy epithelium, which by mere contact became diseased; in fact, it somewhat resembled a ringworm, but was undoubtedly malignant. A second case also confirmed me in the idea of the active operation of a micro-organism; this was a minute rodent ulcer on the cheek with a circular depressed surface, having clear-cut edges or walls. The depressed surface was carefully watched by the patient, a highly intelligent woman, and a powerful hand lens showed that some volcanic action was going on in the little crater. A small cone would rise on the surface and apparently open at the summit by a minute pore, and discharge something (so she thought), and then subside, the whole cone formation and subsidence occupying one or two days. That this was a small rodent cancer was proved by its microscopic examination after removal. Reflecting upon these cases, and also upon the remarkable discovery by Mr. Haviland that cancer exists endemically in populations living upon low-lying moist soils and in certain "cancer-houses," the conclusion seemed highly probable that the micro-organism must be a fungus, and not, as supposed, a bacterium, coccidium, or protozoon. There is a very large Jewish population in Leeds, probably about 10,000, the female portion of which is constantly seen at the out-patient department of the Leeds Infirmary. In not one Jewess have I ever met with cancer of the genital organs, whereas it is extremely common amongst the Christian women, the inference being (assuming it to be a micro-organism) that it is introduced or not introduced by the husband, according to his faith. Microscopic examination of the secretion frequently contained within the prepuce was the next step, with a very suspicious, but not absolutely certain, result. Some spores were found and two minute loops of mycelium identical in appearance with that to be described. I have since this examined epitheliomata taken from the ear, the uterus, the breast, the lip, and the penis, and in all five I have without any difficulty demonstrated the existence of a fungus, the same in all cases. (I have also examined a melanotic sarcoma, but the description of this I will leave until later.) The fungus has been seen and examined by a large number of students, qualified residents at the Leeds General Infirmary, medical men in practice, and by some of my own colleagues, and none have had any hesitation in admitting its existence. The mode of preparation is as follows. Whether the preparation is an old one in spirit, or whether it is quite fresh, cut out a very small block from the centre, but in the case of cancer of the lip the free margin should be included. If fresh and not convenient to examine at once place in dilute spirit for the night. Next day make as fine sections as possible in the usual way and place them in water. Float off two or three of the best on to slides and drain off as much water as possible. Place upon each three or four drops of liquor potassæ and put them aside protected from dust, to stand for from twenty minutes to four hours, according to the opacity or thickness of the section. When the section appears pretty transparent wash away the liquor potassæ with water without displacing the section. This must be thoroughly done. Then mount in Farrant. If it is merely wished to examine quickly without preservation of the section put on a drop of liquor potassæ and then the cover-glass. The section will improve for two hours, or if a fresh growth for even four hours, and will then slowly fade. This plan, however, is the best at first, for the idea derived is clearer, as the mycelium comes out gradually and more distinctly and at last but little else is seen. This plan is founded upon the fact that the fungus, with its mycelium, spores, and spore bags, resists the potash longer than the tissues proper. If the action of the potash is not sufficient, the yellow elastic tissue presents a similar appearance to the mycelium. It is, however, larger, coarser, and straighter, and is also sometimes branched, which the mycelium never is. In cancer on the lip it is very important to use the potash long enough. If now the section is held up to the light it will be seen to be very transparent and almost invisible, but here and there small whitish portions are seen. These contain the fungus in the greatest amount. Under a $\frac{1}{4}$ in. objective larger or smaller quantities of extremely fine colourless mycelium are seen. The delicate fibres are rounded, not flat or jointed. They are often contorted and curved so as to form masses of loops. In the epithelioma of the lip the mycelium was especially abundant at the free surface of the sore. It will take no dye, and, indeed, none is required, its great refracting power making it stand out clear and distinct in outline. Any attempt at dyeing makes it all but invisible. Numerous solitary spores and also the mycelium was found in all the five specimens. In the epithelioma from the auditory meatus (papilloma?) there were also spore masses not contained in an envelope or wall; these were of irregular shape. In the uterine cancer was seen a spore mass emitting mycelium (see H in drawing).

FIG. 1.



A, Primary spores. B, Two spores approach and contiguous sides flatten. C, A tube is projected from one which sucks in the other. D, The commoner mode of conjunction, ending, as does C, in the formation of zygospores (C 1; D 1, 2, 3). E, Conjugation of more than two spores to form spore masses. F, Complete spore mass in envelope or cell membrane; I have called these "spore bags." G, Splitting of spore bag and exit of mycelium. H, Same from the uterine cancer. I, One (the only one seen) emitting mycelium from both ends. J, Spent spore bags. K, Mycelium from the lip cancer at edge of sore.

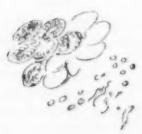
In the breast cancer the greater part of the life of the fungus could be studied. This breast had been amputated on May 24th and had been placed in a bowl of water with the tap gently running over it for four days. The disease had not penetrated the skin, which up to the time of operation was intact. One deep incision had been made three-quarters through the large mass. A small block was cut from a part of the tumour about two inches deep. One of the sections happened to contain the fungus alive, and it went through most of its life on the slide (in the Farrant), the hour's immersion in potash not having killed it. Its life in the four or five stages of its existence is as follows. To begin with, it is a spore mass. This when perfect has a delicate envelope and contains not a number of separate spores, but a fused mass of spores having a granular appearance externally (see F). This spore mass opens or splits at one side and becomes the shape of a shallow tea cup with a wide mouth. From this grows the mycelium, which penetrates in every direction (see G and H). One spore mass only was seen emitting mycelium from both ends (see I); the growth of mycelium could be noted by the eye, but seemed to have ceased on the evening of May 30th. The slide was then placed in the cabinet for the night, and next day not a trace of mycelium could be found, but the slide was one mass of spores, which certainly were not there the day before. These were evenly distributed over the slide. I have spent much time in watching these no doubt living spores with intense interest. The process of what is called conjugation had been and was to some extent still going on, until it was stopped by the density of the Farrant's jelly, but the whole process

could be seen, and can still, for the slide is yet in good condition. The process appears to be as follows. Two spores approach each other and become flattened at the contiguous sides (see B). From one of these a minute tube soon joins them (see C), and the contents of one spore are sucked into the other, which consequently becomes larger. This would be what is known as a zygospore (see C, 1; D, 1, 2, 3); it is probable that this mode of conjugation only occurs when from some reason the spores cannot actually touch. A commoner mode of conjugation is for two spores actually in contact to become fused into one, all trace of their dual origin vanishing. Similarly, three or four may be so fused, some traces of their compound origin in this case remaining. Not infrequently a considerable number (such as ten or twenty) become fused into one large spore mass (see E). The next step (but this has not been actually seen) is for such a mass to be enclosed in a fine enveloping membrane forming the complete spore bag, with which this description of the life of the fungus began. When the spore bag is exhausted it presents the appearance as seen at J. The life of the fungus, therefore, seems to consist of four stages—namely, (1) spores; (2) zygospores; (3) spore masses and spore bags; and (4) mycelium which is emitted from the ruptured spore bags. This mycelium gives origin to the spores. This must be the case, but it has not been actually seen.

FIG. 2.

Section of melanotic sarcoma, with very low power, showing the spore bags, most of them empty, visible to the naked eye.

FIG. 3.



A few spore bags highly magnified, some empty, with mycelium and spores.

To recapitulate, the only parts of the process which have not been actually seen are the formation of the membranous covering of the spore bag, and the formation of the spores in the mycelium. It may be asked, "Have you introduced the fungus by means of the instruments used?" This cannot be so, for the fungus in the uterine cancer was found within half an hour of its removal in my own house, and it permeated the whole mass. The epithelioma of the lip was removed by Mr. Mayo Robson at the Leeds General Infirmary on May 30th, was in Muller's solution within half an hour, and was examined next morning. The papilloma of the external auditory meatus was removed by Mr. Secker Walker while I was present at a house within a hundred yards of my own, and was placed in Muller's solution immediately. The epithelioma of the penis was removed at the infirmary by Mr. Walter Brown on May 20th, and had been kept from that time in spirit, and was never placed in Muller's solution, so that in all the cases there were different operators and different instruments and different localities, with the exception that two of the specimens came from the infirmary. Examination was made either immediately or next day. The cancer in the breast, however, had been removed four days, and its treatment has been already described. I may now describe the sixth specimen, which had been kept in spirits nineteen months in the pathological room of the infirmary and was labeled "Melanotic Sarcoma." Microscopic examination of this proved the correctness of the title. This was found to be full of mycelium and spores. The mycelium precisely resembled that met with in the epithelioma. Here, however, the resemblance ceased, for there were large masses of spore bags containing as many as 50 to 200 bags each, at least twice the size of the spore bags of epithelioma, and they were egg-shaped instead of round. They readily ruptured, giving exit to the spores, which were of a blackish colour and leaving the empty bags *in situ*. These masses were so large and numerous that they could be seen with the naked eye. It is not likely that this fungus is the same as that of epithelioma assuming another form, as the spores are blackish in colour, and it must be noted that this was not true sarcoma but melanotic sarcoma. No doubt it will be asked whether I assert that this or these micro-organisms are the causes of cancer and sarcoma. No; I do not positively assert this, but I believe it to be the case, for it cannot be a mere accident or coincidence that a fungus was present in every one of the six specimens and in considerable amount. There can be no question whatever as to its existence, and if anyone doubting it could see the sections in my possession he would be convinced immediately. If anyone would care to refer to the Transactions of the Obstetrical Society of London for 1882[1] he will find the report of a case of non-capsulated fibroid within the uterus, in which a fungus was found by me in a large amount, but it was not the same fungus as that of epithelioma or that of melanotic sarcoma, so that this discovery to a certain extent naturally sprang out of that. I have also lately found a few spores, but no mycelium in the growing base of a mucous polypus of the cervix uteri, also in that of a fibroid polypus, and in a uterine fibroid weighing ten pounds, which I removed a short time ago by abdominal section. These may have been accidentally introduced, but in the mucous polypus they seemed to be regularly arranged in the tissues. I will therefore hazard the conjecture, but it is a mere guess, that many other forms of tumour will be found to have a fungoid origin. In this case the theory which I published a few years ago in THE LANCET[2] will explain why some of them are malignant and some are not, and just as it appears probable that one fungus affects only epithelium and causes true cancer, and that another affects only mesoplastic tissues and produces sarcoma, so it will be found that each form of tumour has its own fungus. It is probable that the fungus of ordinary sarcoma is not exactly identical with that described in the account of the specimen of melanotic sarcoma. Much, of course, is yet wanting to prove the case absolutely, but the cultivation of the fungus under direct observation in Farrant is very easy, and probably it would be easier still in some form of jelly containing no antiseptic and of more fluid consistence, so as to allow of movement of the spores. It is almost evident that the primary spores are sterile, also no mycelium has been seen to emanate from zygospores, but they are presumably fertile under some condition or other. The spore bags are undoubtedly very fertile, and must be present so far as can be seen at present for any successful cultivation. It is also not unlikely that mycelium in order to produce spores must maintain its connexion with its nourishing spore bag, and if so mycelium alone would be sterile.

Next arises the natural question, Is any practical result likely to result from this discovery if it should prove after the careful investigation it will doubtless receive that it is the real explanation of the cause of malignant growth? So far as I can see at present the answer may be given as follows: 1. The cure of a cancerous growth actually in existence does not seem more probable but less probable, because the enemy is so subtle, so penetrating, and so indestructible (proved by immersion in liquor potassæ for an hour not killing it) that it almost seems impossible to eradicate it; it is, however, better to have an enemy exposed to view than one invisible. But it seems likely that after removal of a growth by operation it would be better not to close the wound absolutely, but to keep the surface in contact with dressings soaked in glycerine containing liquefied carbolic acid and also perchloride of mercury (the carbolic acid partly to relieve pain). Glycerine penetrates tissues and carries with it any substance in solution. 2. It seems not improbable that cancer of the breast may be altogether prevented in women past the child-bearing period by merely closing the orifices of the milk ducts in the nipple by a small surgical operation or by the use of a fine electric cautery, for the fungus must enter the breast *viâ* the milk

[1] Vol. xxii., p. 182.
[2] THE LANCET, June 30th, 1888.

duct orifices. 3. It is possible that we may have to return to a certain Mosaic rite in order to save our wives from uterine cancer, unless the daily use of soap will do away with this necessity. 4. In order to prevent the fearful mortality from cancer in low-lying wet soil districts the bodies of persons dying from cancer must be specially buried at a great depth or they must be cremated. It will be seen that moisture is absolutely necessary for the formation of zygospores, spore masses, and spore-bearing mycelium. It does not seem probable that the fungus necessarily spends part of its life in the earth, but no doubt when the interment is at no great depth the earth will become infiltrated, if it is constantly wet, and floods will carry the spore masses all over the country. 5. A fungus can only attack effete tissues. We are ourselves only tools of nature; we must keep ourselves bright by constant use; we must not rust from luxury and idleness. Business men must be careful how they retire, for, just as tuberculosis is favoured by excessive work and poor food, so the growth of a fungus is likely to be favoured by the effete materials present in the system engendered by the opposite conditions. We cannot, however, foretell what may be the result of this discovery, if discovery it is. Some remedy may be found which will destroy the fungus. I will now leave the matter to the judgment of my professional brethren. It is certain to excite great interest and many divergent opinions, for is not cancer the most terrible scourge to the human race which exists? The mere dread of it has been known to unhinge the mind, increasing as it is in frequency, and producing an amount of misery which no pen can describe.

Addendum.—Since this paper was written I have, by means of an able working pathologist who has been engaged for several years in a small pathological laboratory in my own house, made over 150 slide preparations of malignant and other healthy (?) and diseased tissue, and have come upon unexpected and startling results, which not only confirm most of what is already published in this paper—for in not one primary malignant case was the fungus absent—but render it highly probable that other diseases, and amongst them diabetes, are caused by fungi. I have also worked out rather more completely the life-history of the fungi of epithelioma and of sarcoma, and propose, with the kind permission of the Editors of THE LANCET, to describe these further results in a subsequent paper. Meanwhile, and until this is done, I shall be grateful if criticism is withheld. It is extremely easy for anyone to satisfy himself as to the existence of the fungi, and it would be better for actual investigation to precede criticism.

Leeds.

THE TEACHINGS OF PROFESSOR E. FRANKLAND'S REPORT ON METROPOLITAN WATER-SUPPLY, 1894.

BY CHARLES PORTER, M.D. IREL., D.P.H. CAMB., M.R.C.S. ENG.,
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THE latest addition to Professor E. Frankland's familiar series of annual reports to the Registrar-General on the quality of the water supplied by the metropolitan water companies presents features of special interest and suggestiveness.

By graphic representations of the monthly fluctuations of contained organic matter Professor Frankland demonstrates the marked inferiority in regard to chemical purity of the raw river waters utilised in 1894 as compared with those used in 1893, and once more alludes to (*a*) the chemical superiority of the water of the Lea over that of the Thames as a raw material, especially in times of flood; and (*b*) the greater chemical purity of the water of the Lea in its upper as compared with its lower reaches. A second diagram contrasts the organic purity of the raw Thames water at Hampton with that of the average filtered water as delivered in London, and in this connexion attention is again directed to the fact that water impounded in times of severe floods may most seriously affect the quality of the "supply as delivered" in the following month, even to the extent of making it during that month of a worse quality from a chemical point of view than the raw river water passing the companies' works at the same time. Commenting upon this remarkable state of things, Professor Frankland in his 1893 report recommended the provision either of (*a*) some means of substituting the river for stored water whenever the chemical quality of the former is better than that of the latter, as roughly estimated by observations of the colour in a two-foot tube: or of (*b*) sufficient storage to tide over the longest floods. This, it will be remembered, was one of the two conditions (the other being efficient filtration) with which the late Royal Commission safeguarded their opinion that no danger exists of the spread of disease by the use of drinking water derived from the Thames and Lea. Large, though insufficient, storage capacity appears, however, in this particular (chemical) respect, to be distinctly more disadvantageous than a relatively small amount, for certain companies who possessed comparatively little provision of this kind were actually enabled, just after the floods of June and December, 1894, to deliver water of better quality than that supplied by the Chelsea Company, who, notwithstanding their much greater storage capacity, had obviously been unable to entirely exclude flood water and had been compelled to use it afterwards. On the other hand, as regards bacterial purity, the deliveries of the companies possessing least storage were, as might be expected, amongst the least satisfactory.

Judged by the relatively low proportion of carbon to nitrogen, the organic matter present in the waters was, as usual, found to be chiefly, if not entirely, of vegetable origin, the directly conflicting results in this respect formerly obtained by the water companies' chemists having proved to be due to an error in the method of analysis adopted by the latter. A further discrepancy in regard to the Chelsea Company's water is explained by the fact that the supposed samples of this water collected for the companies' chemists were really taken, inadvertently, from the New River Company's main. In regard to the softening of metropolitan water (both river and well), treatment with lime is regarded as the most economical method, unless it can be shown that less than one-eightieth of the total supply is used for washing, for it entails only about one-eightieth of the expense incurred by the private consumer in the shape of additional soap.

Believing with Professor Koch and with American observers at Lawrence, Mass., that *efficient* sand filtration is practically a perfect safeguard against the introduction of cholera and typhoid fever bacilli into drinking water, Professor Frankland attaches the highest hygienic importance to the bacterioscopic examination of river-derived drinking waters as the only trustworthy method by which their efficient filtration and bacterial purity can be ascertained. To facilitate such examination in the metropolis he advocates the establishment of small bacteriological laboratories at the various river-water intakes. It is to be hoped that the time is not far distant when such provision will form part of the equipment of all filtering works, so that (as is now the case in the metropolis) the engineer in charge may at once be informed when any filter is working unsatisfactorily, for, to quote Professor Koch, "it is the business of those in charge of the works to take care that the filtered water always satisfies bacteriological requirements."

The results of bacterioscopic examination of the *unfiltered* river waters used by the metropolitan companies in 1894 once more demonstrate (1) the immense destruction of bacteria which is effected by storage in subsidence reservoirs, and (2) that the bacterial quality of these waters may differ widely from their chemical qualities. Thus, the water pumped from the natural gravel-beds near the Thames is nearly identical chemically with the Thames water itself, but the bacterial purity of the gravel water far exceeds that of the Thames water, and, indeed, not infrequently that of the filtered Thames water sent into London. Again, although the water of the Lea was found during the year to be chemically purer than that of the Thames, and also in its higher as compared with its lower reaches, yet the determinations of 1894 have demonstrated that bacterially the higher portion of the Lea is enormously inferior to the lower portion and also to the Thames at Hampton. Professor Frankland specially draws the attention of the Lea Conservancy Board to this unexpected condition, and one naturally recalls the strictures of the late Royal Commission on the large heaps of gas-lime, manure, and town refuse which, as far at any rate as Hertford, "are placed on the edges of the banks [of the

Lea] and within a few feet of the stream itself," and which obviously in times of rain and flood become a serious source of pollution.

No part of this report will be read with greater interest than the observations recorded on the causes of the great variations in the amount of microbial life in river waters during the course of the year. Changes of temperature or exposure to varied amounts of direct sunshine have hitherto been regarded as responsible for these variations, the Royal Commissioners stating in their recent report that bacterial life is injuriously affected by "even such a tempered amount of light as is present under ordinary conditions in Thames water." Professor Frankland now, however, demonstrates that the amount of rainfall—or, in other words, the volume of water flowing in the river—is the chief cause of these variations. In a series of most interesting tables and diagrams he brings the number of microbes in raw Thames water into contrast with each of these alleged causes, and his conclusion is as follows: "That the number of microbes in Thames water is determined mainly by the rate of the flow of the river—or, in other words, by the rainfall—and but slightly, if at all, by either the presence or absence of sunshine, or a high or low temperature. With regard to the effect of sunshine, the interesting researches of Dr. Marshall Ward leave no doubt that this agent is a powerful germicide, but it is probable that the germicidal effect is greatly diminished, if not entirely prevented, when the solar rays have to pass through a comparatively thin stratum of water before they reach the living organisms. If this be so, however, it can be no matter of surprise that the effect of sunshine upon bacterial life in the great mass of Thames water should be nearly, if not quite, imperceptible." In regard to *filtered water*, if 100 microbes or their spores per c.c. be taken as the permissible limit of bacterial life, the effluents of the Chelsea, the West Middlesex, the Lambeth, and the New River Companies were almost uniformly of great bacterial purity. Never once throughout the entire year did the Chelsea filtered water exceed the above limit. The West Middlesex and the Lambeth both transgressed once (in January) and the New River Company twice (January and June). Ten samples of the Grand Junction Company's effluent (four from the Kew and six from the Hampton filters) exceeded the limit, the worst results (464 and 278 per c.c.) being in January and June. Four samples of the Southwark and Vauxhall Company's effluents, taken respectively in January, February, July, and December, were also unsatisfactory. The very small storage possessed by both of the two last-named companies is considered mainly responsible for these results. The East London Company's filters worked very irregularly up to, but not after, the end of July, and up to that time (except during May) there was always at least one unsatisfactory sample. Most of the foregoing abnormal results occurred when the raw river water was bacterially very impure.

The closing pages of the report are devoted to a *résumé* of the results hitherto obtained at the Lawrence (Mass.) Experimental Filtration Station, which are briefly: (1) that within the limits of 300,000 gallons to 3,000,000 gallons per acre per day, variations in the rate of filtration have practically no effect on the purity of the effluent, and that filters may be satisfactorily worked even at the rate of 5,000,000 gallons per acre per day, provided the uniform rate is maintained; (2) that, the finer the size of the sand grains between the limits 0·2 mm. and 0·9 mm. diameter, the higher the percentage of bacteria removed; (3) that with any moderate rate of filtration the depth of the sand within the limits of 1 ft. and 5 ft. exerts but little influence upon the percentage of bacteria removed; and (4) that scraping the surface of a sand filter does not interfere with bacterial efficiency, provided there is no mechanical disturbance of the main body of the sand. It is well known that Professor Koch has pointed out certain difficulties attending efficient filtration during times of frost, which he ascribes to (1) freezing of the superficial sand layer, causing at first total arrest of filtration and later excessively rapid filtration through the portions of the surface which are the first to thaw and become permeable, and (2) the impossibility of cleansing the sand surface of open filtering basins which have become thickly covered with ice. Professor Frankland, however, refers to, and reserves for future report, some entirely novel phenomena affecting filtration which the recent severe weather in England has brought to light, and the publication of his observations will be awaited with much interest.

Stockport, Cheshire.

A NOTE ON TWO CASES OF PUERPERAL ECLAMPSIA.

BY ROBERT CRAIK, M.D. GLASG.

CASE 1.—A married woman aged twenty-seven years had her first child in October, 1893.] Labour was normal, delivery easy, and it was noticed that very little blood was lost with the placenta. Twenty-four hours after delivery she became strange, complained that she could not see, and had twitchings of the face and arms. When I arrived soon afterwards she had a convulsion lasting a few minutes, which left her unconscious, with noisy breathing. After a brief interval there was a second convulsion, general and very violent. Six ounces of blood were at once taken from the arm, and as the third convulsion came on (before the arm was tied up) chloroform was administered till she was fully under. A specimen of urine was drawn off and found to be highly albuminous; the ankles and face were seen to be distinctly œdematous. She was packed with hot bottles to encourage sweating, and one drachm of chloral was given per rectum. Although the patient was unconscious there was not another convulsion for about an hour. It was much less violent and lasted only a few minutes, during which a little chloroform was used. Five hours from the beginning of the attack there was still a slight convulsion from time to time, and another drachm of chloral was given as before, and one-third of a grain of morphia hypodermically. There was no convulsion after this, and, although the patient remained unconscious for six hours longer—about twelve hours in all—it was plain that she was improving. She perspired very profusely nearly all the time. She seemed to go on well for three days; then she had shiverings, her temperature went up to 105° F., and the vaginal discharge was found to be highly offensive. The uterus was scraped and douched with warm perchloride of mercury solution, and an iodoform bougie was left in. The douche was used night and morning till the temperature became normal, about thirty hours after the first douching. There was a good recovery in every respect, except that when I last saw her, a month after the commencement of the illness, there was still a trace of albumen in the urine.

CASE 2.—A married woman twenty-one years of age, robust and rather stout, who was in the eighth month of her first pregnancy, was suddenly seized with convulsions just as she was about to rise one morning. Very soon afterwards I found her semi-conscious and breathing noisily, and in a few minutes a very violent convulsion set in and lasted a considerable time. As soon as the convulsion began to pass off rather more than six ounces of blood were taken from the arm. Chloroform was then administered and delivery attempted. The os soon yielded sufficiently to the fingers to allow of turning. Delivery was easy, as the child was small. An average amount of blood was lost with the placenta, which came away without much trouble on compressing the uterus. The manipulations occupied an hour (during which she was under chloroform), and delivery was completed about an hour and a half after the patient was first seen. An intra-uterine douche of perchloride of mercury was given. Some urine was drawn off and found to be blood-coloured and highly albuminous. She was packed with hot bottles to encourage sweating, one drachm of chloral was given per rectum, and one-third of a grain of morphia hypodermically. There were no convulsions for two hours after delivery, but they then set in and continued to recur at intervals of about half an hour for the following twelve hours, with varying degrees of violence. Chloral was given (one drachm every two hours) per rectum till she had had rather more than half an ounce in all. After that, chloroform was used from time to time when the convulsions were very severe, but it was not pushed. Eighteen hours from the first onset of the convulsions the patient was lying quite unconscious, breathing rapidly, with a very weak and rapid pulse. Her feet and legs were much swollen, and her face was markedly œdematous. Not more than three or four ounces of urine had been drawn off in twelve hours, and she was not perspiring freely. She seemed to be in a dying state. An enema of beef-tea and brandy was given, one-third of a grain of pilocarpin in solution was dropped on the tongue, and the hot bottles were continued. After lying for three hours in a seemingly hopeless condition,

bathed in perspiration, the pulse began to improve. It now became possible to give hot strong tea by the mouth in teaspoonfuls, and in this way half a pint was given in an hour. There was gradual improvement in the pulse, which became stronger and fell from nearly 200 to 120. Consciousness returned about thirty hours from the onset of the seizure, but there had been no convulsions during the last ten hours. Improvement was now all that could be desired for two days, and then she was found to have a temperature of 104° F. The vaginal discharge was very offensive, but there was not any marked tenderness of the abdomen. The uterus was scraped out, pure carbolic was applied to its inner surface, and then it was thoroughly irrigated with hot perchloride of mercury solution, and an iodoform bougie left in. Irrigation with hot perchloride was repeated night and morning, the temperature remaining above 103° for two days, and not reaching the normal for a week. There was a good recovery, and the albumen disappeared from the urine in a much shorter time than in the first, and less severe, case. At one time or another there were seen in this urine blood corpuscles, blood casts, and hyaline casts, yet it was apparently normal in a fortnight.

Remarks.—In these two cases, which called for treatment on the same day within a few hours of each other, a similar course was pursued, with similar results. The only difference, indeed, was that one-third of a grain of pilocarpin was given in the second and more severe case when it was at the worst, whereas no pilocarpin was given in the first case. In both cases septic poisoning occurred, and the use of the catheter, the hot packing, and perhaps some neglect of the discharge during the period of unconsciousness may have led to this. Each case had its own catheter, syringe, &c., and reasonable precautions were taken to avoid sepsis. As the high temperature lasted so long in the second case, there probably was septic metritis. Four other confinements attended during the same week had a normal recovery.

Conisborough, Yorks.

ABSCESS OF LUNG TREATED BY DRAINAGE AND IODOFORM; RECOVERY.

BY J. EUSTACE WEBB, M.B. ABERD.

A WOMAN aged twenty-seven years came under the care of my partner, Mr. Wm. Hammond, and myself on Aug. 1st, 1894. She had given up all hope of recovery, as she had been told by two medical men that she could not live many weeks. Her mother died of lung disease at the age of thirty-two, and on the maternal side there was a decided history of phthisis. Her father was aged fifty-eight; he suffered from rheumatic gout. She had no brothers or sisters. She had inflammation of the lungs in early childhood, since which time she had been perfectly well. In the latter part of June, 1894, she was suddenly attacked, at the time of her menstrual period, with pain in the right side of the chest, which was followed by cough and expectoration. When examined on Aug. 1st the right chest gave the following physical signs: Great dulness, extending all over the base of the lung posteriorly to a line well above the angle of the scapula, and at the side and anterior part of the chest below a line continued horizontally round from the ensiform cartilage; vocal resonance and fremitus were present, but not markedly increased; the breath sounds were distant, but heard to the extreme base. The tape at the level of the ensiform cartilage showed an increase of one inch on the right side. The breath was fetid, had the characteristic odour of pus, and the air of the whole cottage was pervaded with the same sickly odour. The expectoration was purulent and nummular. The body was fairly well nourished, but she stated that she was losing flesh rapidly. Her pulse was 120, her temperature 102° F., and her respiration 30. Her appetite was very bad, and the tongue was red and glazed. As she lived six miles from my house a record of her temperature &c. could only be taken once daily. On Aug. 9 h the chest was aspirated in the axillary line, in the sixth intercostal space; the needle penetrated to a depth of two and a half inches, and twelve ounces of pus, slightly mixed with froth, were drawn off. For some days after the operation she appeared greatly relieved, the fetor of the breath was very much diminished, and she was able to relish her food. No marked improvement, however, was noted in her pulse, temperature, or respiration; the breath sounds could be heard more distinctly at the base, but there was no appreciable diminution in the dulness. On Aug. 25th she vomited about half a pint of pus, and again the fetor of the breath became less. The physical signs suggesting an increased collection of pus then became more marked, the dulness extending to above the middle of the scapula behind and to a corresponding level in the side and anterior part of the chest. She was losing flesh rapidly. Her respiration was 40, the pulse was 120 and very soft, and she was passing loose evacuations many times in the day. On Sept. 2nd a large trocar and canula, the size of a No. 14 English catheter, was passed through the chest-wall into the lung just above the angle of the scapula, and between it and the vertebral column it was directed forwards and outwards. This spot was chosen because it seemed to be that of the maximum density. When the trocar was withdrawn a flow of pus through the canula continued until fourteen ounces were collected. A drainage-tube six inches long was then passed through the canula into the abscess cavity, the canula was withdrawn, the drainage-tube was secured to the skin with thread and sticking plaster, and covered with a thick absorbent dressing. Each day the dressings were changed, and at first they were always found saturated with discharge. During the dressings the patient was brought to the edge of the bed in the dorsal recumbent position and directed to cough; by this means many ounces of pus were discharged. After the fourth day the drainage-tube was replaced by one considerably larger in calibre; this was removed daily, and after cleansing was filled with powdered iodoform, reintroduced, and blown clear into the abscess cavity. On Sept. 17th an etherial solution of iodoform was injected through the tube into the cavity, a proceeding which almost caused death, for the glottis was thrown into spasm, and the odour of ether was very strongly perceptible in the breath. From this date she improved in a marked manner and on Sept. 24th the discharge had practically ceased. From Sept. 2nd she took one grain of iodoform in pill every four hours, and continued to do so until her removal to the convalescent home. On Sept. 24th the measurement of the chest showed a decrease of two inches on the right side at the level of the ensiform cartilage. On Oct. 6th she complained of pain in the front of the chest, and a tender spot was exhibited in the fifth interspace immediately below the nipple. On the 9th, as there was evidence of fluctuation at this point, an incision was made through which dressing forceps were passed and opened, when a large quantity of pus came away. A drainage-tube was then introduced, filled with iodoform, as before described. In a few days the sinus closed. On Dec. 1st there was a difference of three and a half inches in the measurements of the two sides. The temperature was then 99°, the pulse 100, and the respiration 40 a minute. She was removed to St. Michael's Home near Brent on Dec. 6th, 1894, and there made an uninterrupted recovery. On March 8th the right side of the chest measured three inches and three quarters less than the left at the level of the ensiform cartilage. The whole of the lower lobe of the right lung appeared to be solid, the percussion note was absolutely dull, and no breath sounds could be detected. On March 19, 1895, she returned to her old situation, having gained over two stone in weight since Dec. 1st. She said she felt perfectly well.

Liskeard, Cornwall.

Clinical Notes:

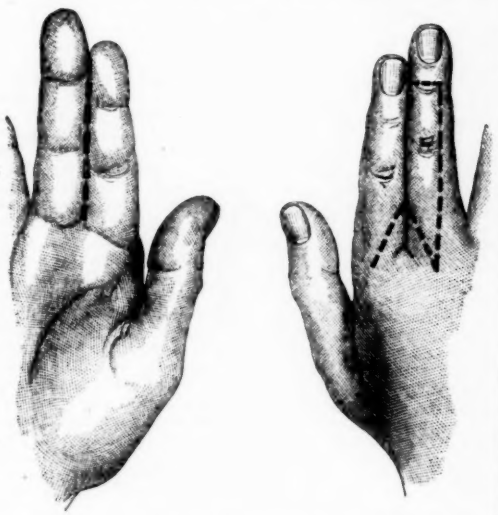
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

AN OPERATION FOR WEBBED FINGERS.

BY LEONARD A. BIDWELL, F.R.C.S. ENG.,
SENIOR ASSISTANT SURGEON TO THE WEST LONDON HOSPITAL, ETC.

THE deformity of webbed fingers, although not a very serious one, is often very difficult to treat. In my opinion, all the older methods of treatment are unsatisfactory in their results. The main objects to be aimed at in an operation for such a deformity are the avoidance of cicatricial contraction and the least possible interference with the palmar surfaces of the fingers. Simple division of the web produces so much

subsequent cicatricial contraction that the fingers become more useless than before the operation. The only old operation which aimed at avoiding cicatricial contraction was that devised by Didot, in which flaps are cut from the dorsal surface of one finger and from the palmar surface of the other. In a tight web the flaps will not be sufficient to completely cover in the divided fingers, and the interference with the palmar surface of the fingers is undesirable. I have therefore devised the following operation. In the case of a web between the index and middle fingers an incision is made down the palmar surface of the web immediately between the two fingers; a triangular flap is then cut on the dorsal surface of the web, the apex of which reaches about midway between the knuckle and the first inter-phalangeal joint. This is dissected up; a third incision is made along the inner margin of the dorsal surface of the middle finger and continued down to the knuckle, as shown in the diagram. This flap is dissected up as far as the web, the fibrous tissue of which is divided, and then united to the inner margin of the palmar surface of the index finger. The triangular flap is also united at its apex to the angle between the palmar surfaces of the two fingers. The index finger is then completely and loosely covered with skin, while the middle finger is uncovered on its outer and on the greater part of its dorsal surfaces; these raw surfaces are then completely covered with Thiersch's grafts cut from the forearm. An



antiseptic dressing is applied and the hand kept on a splin for fourteen days; the wound is dressed at the end of a week and the stitches are removed, the whole surface being then healed. I have recently operated on a child aged two and a half years by this method. There was an extremely tight web between the middle and ring fingers, together with a loose one between the ring and little fingers (the latter extended only as far as the first interphalangeal joint). The web between the middle and ring fingers was treated in the way just described; the web between the ring and little fingers was simply divided after the formation of a triangular dorsal flap; the dorsal and plantar edges of each side of the web were then united with horsehair sutures. All the grafts took, so there was no cicatricial contraction; the movements of the fingers are perfect, and the result is in every way satisfactory.

In all plastic operations I think that it is most essential to leave no raw surface to heal by granulation, since, if this is done, cicatricial contraction is very likely to ensue, and will mar the result of such an operation. As I have pointed out before,[1] the new skin formed from Thiersch's grafts contains a cutis and papillæ, and does not show any tendency to contract; in children, at least, it quickly becomes indistinguishable from the other skin. Another point in my operation which I consider of importance is that the palmar surface of the fingers is not interfered with at all, and instead of making two indifferent fingers, as in Didot's operation, we can be certain of having at least one perfect one even in the untoward event of grafts failing. The triangular flap, which is dissected up from the dorsal surface and fixed into the angle between the fingers in front, makes it impossible for the web to reappear, and the resulting cleft is quite natural in appearance. In many of the text-books it is recommended that no operation should be performed at an early age, but I consider that my operation should be performed at about the age of two. I feel inclined to recommend this early age since I have found that the skin formed from Thiersch's grafts is more perfect in early childhood than at any other age.

Wimpole-street, W.

[1] THE LANCET, July 21st, 1894.

A CASE OF POISONING BY STRAMONIUM SEEDS.

BY RICHARD CATON, M.D. EDIN., F.R.C.P. LOND.,
PHYSICIAN TO THE LIVERPOOL ROYAL INFIRMARY.

THE following case was under the care of Dr. T. R. Bradshaw, assistant physician to the Liverpool Royal Infirmary, and the notes were taken by Dr. S. Ross, house physician to the infirmary.

The patient, a man of weak intellect aged twenty-nine, was brought to the out-patient department of the Liverpool Royal Infirmary at 11.45 P.M. on March 24th, 1895. He was comatose, with stertorous breathing. The pupils were very dilated and fixed. A bottle was produced containing stramonium seeds and whisky (the seeds were reniform, the surface being pitted and the taste bitter), which mixture he had been drinking. He had convulsive twitching of the arms and legs and lateral oscillations of both eyeballs. His skin was very dry. The pulse was 130, very frequent and small; the respiration was 30. A stomach-tube was passed, and a small quantity of the contents was obtained, including fifteen stramonium seeds. One-tenth of a grain of apomorphine was given hypodermically, and fifteen minutes afterwards he was removed to Ward 11 and placed in bed, hot bottles being placed around him. One-tenth of a grain of pilocarpine was injected subcutaneously, and one minim of croton oil was given. After waiting an hour for the apomorphine to take effect a hypodermic injection of one-sixtieth of a grain of strychnine was given. All this time he was delirious and having ice applied to his head. In half an hour he vomited freely, and henceforward began to improve. On the morning of the 26th he was quite rational. He suffered from retention of urine, and this was relieved by a soft rubber catheter. The urine was of sp. gr. 1020 and contained no albumen, but phosphates were present. The pupils were still widely dilated, there was a small amount of reaction to accommodation. The knee-jerks had been absent from the very first. Cutaneous sensibility was normal. On the 27th the pupils were contracting and reacted to light and accommodation; the knee-jerks were present.

Liverpool.

A BRIEF ACCOUNT OF THREE CASES OF PLACENTA PRÆVIA.

BY W. F. GRANT, M.D. EDIN.

I HAVE within the last four months had three cases of placenta prævia, and, as the frequency of occurrence of such cases is estimated at one in 573 labours, I have thought that a note of them might be of some interest. My first case came under treatment on Feb. 18th last. It was the third pregnancy, the others having been normal. Hæmorrhage first began at the end of the fourth month, and there were slight losses at long intervals. At seven months and a half very serious hæmorrhage set in, necessitating interference. The child was stillborn. The mother recovered. The second case occurred on April 30th. Hæmorrhage first started at four months and a half, and there were four or five "shows" during the month following. There was then no recurrence of the hæmorrhage till the seventh month, when so severe a flooding set in, with threatened collapse of the mother, that the case had to be terminated without delay. The child made some very slight attempts at respiration. The mother made a good recovery. It was her eighth confinement, the other labours having

been normal. I was called to my third case on June 14th. Hæmorrhage had set in at six months. It had been going on slightly for a week, when some severe gushes rendered interference necessary, although the child had not reached a viable age. The mother made a good recovery. It is a fact of some interest that I had ten months previously confined the same woman with a placenta prævia, and at the same period of her pregnancy. She had had eleven previous confinements, several of them being premature births. In all my cases the head presented. Under chloroform the os was gradually dilated by the fingers, the placenta detached, the hand inserted between the placenta and uterine wall, and a foot brought down. In my last case a small piece of the placenta was found to be detached from the main body, and this piece had been engrafted over the os.

Mile-end-road, E.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ROYAL FREE HOSPITAL.

A CASE OF DISEASE OF THE MIDDLE EAR IN WHICH A RESULTING TEMPORO-SPHENOIDAL ABSCESS DISCHARGED THROUGH THE NOSE; NECROPSY.

(Under the care of Mr. BOYCE BARROW.)

THE mode of termination of a cerebral abscess in the manner described in this case is of sufficient rarity to render the account of considerable interest. Writing on the subject of cerebral abscess due to otitis media, Dr. Bristowe[1] says: "An occasional result of abscess is its extension by bursting or by gradual erosion into the cavity of the arachnoid or into one of the ventricles, or its discharge externally through the ear or nose." The presence of the temporo-sphenoidal abscess was diagnosed in this case, and an operation for the evacuation of the pus commenced, when the unexpected and somewhat copious discharge from the mouth made it probable that some of the symptoms might be due to another and less serious condition. For the notes of this case we are indebted to Mr. Willmott H. Evans, registrar.

A woman aged thirty-eight years was admitted into the Royal Free Hospital under the care of Mr. Barrow on Feb. 1st, 1895. In 1882 she fell, striking her head. This accident was soon followed by a discharge from her right ear, accompanied by a good deal of pain and by complete deafness on that side. In April, 1890, she became an in-patient at the Royal Free Hospital, complaining of an intensely fetid discharge from the right ear. Her temperature was very irregular, and she had occasional rigors; there was also some weakness of the muscles on the right side of the face. The mastoid was explored and no pus was found at the first operation, but about a fortnight later at a second operation, a small quantity of pus was evacuated. Her condition improved, and she was discharged five weeks after admission; but three weeks later she was readmitted, suffering from severe headache. The discharge from the ear was still somewhat offensive. The mastoid cells were carefully cleared out, the dura mater was exposed, and an irregular pus-containing cavity was opened, lying between the dura mater and the bone. This was cleansed as completely as possible. After this operation her condition greatly improved, and she left the hospital a fortnight later with a slight discharge from the ear, but otherwise well. From that time she had been in fairly good health, but had suffered occasionally from pain in the right ear, but no discharge. Last Christmas she caught a severe cold, she became completely deaf on the right side, and there was sharp pain in the right ear. About a week before readmission she noticed a swelling behind the same ear, which after being poulticed for two days broke and discharged a great deal of thick fetid pus through the old scar. On Feb. 1st she came back to the hospital and was readmitted. The patient had had scarlet fever when a child, but it was not followed by any discharge from the ear. There was nothing noteworthy in her family history. On admission her general condition was good. She complained of great pain in the head, and of tenderness over the right mastoid and down the course of the internal jugular vein. Behind the ear there was a scar which had in part given way, and from the opening so formed pus was oozing. Behind the angle of the jaw on the right side there was a rounded swelling about an inch and a half in diameter; it was tender and hard. On examining her eyes no optic neuritis was to be seen. Her temperature varied somewhat, but was fairly constant at about 102° F. Soon after admission she became very drowsy, and as her temperature still continued raised it was decided to operate, so on Feb. 3rd the scar, from which pus was coming, was opened up, and some extremely fetid granulation tissue was scraped away from the opening into the mastoid. The bone surrounding the opening was found to be intensely hard. The wound and the external auditory meatus, from which also fetid granulation tissue had been scraped, were syringed out with a lotion of carbolic acid (1 in 20) and dressed with glycerine and iodoform gauze. During the operation slight twitchings of the muscles of the right side of the face were noticed. On Feb. 4th, after the operation, the temperature fell to normal, but soon rose again to 101·2°. The facial paresis was still evident, the right eye not being closed so completely as the left. The swelling in the neck had extended further down, and was redder. The temperature continued to be very irregular and on the 6th reached 104°. The drowsiness was more marked, and the patient complained that she could not swallow; for this no cause could be discovered in the throat. Incontinence of urine and fæces was present. On the 7th the dysphagia was so great that nutrient enemata were employed. Early on the morning of the 8th the patient had an attack of dyspnœa, becoming very blue; finally she coughed up about two ounces of very fetid pus, and then she seemed much better. The drowsiness became more marked, and at midday on the 8th Mr. Barrow decided to operate. The patient was anæsthetised with the A C E. mixture, and Mr. Barrow with chisel and mallet cut away the skull wall behind and above the mastoid process, laying bare the lateral sinus. The bony walls of the mastoid cells were found to be necrosed and filled with caseous pus, which was scraped away. At this moment some pus was seen to be running from the mouth, which seemed to be almost filled with it. The wound was syringed out with carbolic acid lotion and dressed with glycerine and iodoform gauze. Soon after the operation the temperature fell somewhat, but rapidly regained a point over 103°; it varied greatly, sometimes even reaching normal. Pus continued to flow from the mouth, but the amount could not be estimated. The facial paralysis became more marked after the operation. On Feb. 9th the patient's condition had much improved. She was quite sensible and complained of no pain, and her temperature had reached normal. On Feb. 11th her condition was possibly a little better. The pus continued to be discharged from the mouth, but its source could not be discovered. The urine contained much albumen. Attacks of cyanosis came on at irregular intervals. On Feb. 12th the pus had ceased to flow from the mouth, and several attacks of cyanosis had occurred. The respiration was very rapid and shallow. The facial palsy was well marked. The drowsiness was increasing. At 12 noon a severe attack of cyanosis occurred, and in spite of the administration of restoratives the patient gradually sank, dying at 3 P.M.

Necropsy.—At the necropsy, on Feb. 13th, the body was found to be well nourished; rigor mortis was little marked. On removing the dura mater from the right side of the brain pus was seen on the upper surface of the right frontal lobe, and a collection of pus (about one ounce) was found on the under surface of the right frontal lobe, which had been greatly compressed by it. The pus extended to the cribriform plate of the ethmoid, which was apparently abnormally perforated at the side of the crista galli. A track of pus led back from the large collection along the under surface of the brain to the outer surface of the right temporal lobe, where a small aperture communicated with an abscess cavity, containing about a drachm of pus, in the temporal lobe. A small scale of separated bone was found on the petrous portion of the temporal; it had no pus round it, and was probably the result of the operation. The superior longitudinal sinus was thrombosed, but not the lateral sinus.

[1] Theory and Practice of Medicine.

NORWOOD COTTAGE HOSPITAL.

ABDOMINAL SECTION; ENUCLEATION OF PELVIC UTERINE FIBROID; SUTURING POSTERIOR UTERINE WALL; RECOVERY; REMARKS.

(Under the care of Dr. J. H. GALTON.)

THE operations for uterine myoma are briefly described as follows:[1] (1) simple myomectomy or removal of the tumour without any of the uterine tissue, by excision or by enucleation and without entering the uterine cavity; (2) hysterectomy, total or partial, or removal with the tumour of more or less, or all, of the uterine tissue proper, usually with entrance of the cavity. The exact operative measures which may be required in the case of an abdominal tumour cannot be always given before the abdominal cavity has been opened, and this statement applies even more strongly to uterine fibromyoma. The surgeon will obtain the best results who is best prepared to adapt himself to the circumstances of the individual case.

A woman aged forty-two years was admitted to hospital on Nov. 4th, 1894. Her paternal aunt died of cancer of the breast. Menstruation had always been regular, painless, and moderate in quantity. Ten months ago the patient first felt a heavy feeling at the lower part of the abdomen; she had twice been unable to pass urine, and the bowels were confined. Dr. Galton then saw her, and examined externally the lower part of the abdomen, finding only slight fulness of the right iliac region, for which an aperient was prescribed. Two months ago she first felt a lump in the lower part of the right side of the abdomen. She had had no pain. On Oct. 15th Dr. Galton saw her again and found a tumour above and to the right side of the pelvis, occupying the right iliac and hypogastric regions, and dull on percussion. On vaginal examination the os was found high up, tilted above the pubic arch, and behind it a well-defined tumour occupying the position of Douglas's pouch and almost filling the pelvis. It was rounded and hard to feel per rectum, and could not be lifted out of the pelvis. Dr. Horrocks saw the case and recommended abdominal section with removal of the tumour if possible. The operation was performed on Nov. 5th, at 11.30 A.M. Chloroform was administered by Junker's inhaler, and Mr. Sidney Turner, Dr. Shearer, and Mr. Arthur Turner assisted. A three-inch incision was made in the middle line of the abdomen below the umbilicus. The uterus and ovaries were found in front of the tumour; the uterus was movable upon it, but connected with it by a band of uterine tissue. It was impossible to raise the tumour or to encircle it owing to the broad base of reflexion of the peritoneum above it. A double ligature was passed through the broad ligament on either side and tied on each side of the ovary and the ovaries removed. As the tumour gave a sensation of fluctuation a small Simpson's trocar was passed into it, and the wound bled so freely as to leave no option but to proceed with the removal. The abdominal incision was extended one inch downwards. The opening of the trocar was enlarged by incision through the peritoneum and the tumour gradually enucleated by the fingers, leaving it attached by a muscular band to the back of the uterus. This was tied in two places and divided between, but the uterine ligature was divided in separating the tumour and disclosed a wound of the posterior wall, through which a uterine sound passed into the peritoneum. This wound was united with four silk sutures. The broad ligament pedicles were dropped in (no washing out of the pelvis or drainage was employed) and the abdominal incision closed by five deep silver wire sutures and four superficial ones. Boracic acid was sprinkled over the wound and green protective placed over the suture ends; then gauze pads and a flannel bandage were applied. The tumour weighed 1 lb. 10 oz. The operation lasted one hour and twenty minutes. The patient was a good deal collapsed during it. After putting her to bed the pulse was 58, feeble, and the temperature 97·8° F. At 6 P.M. the temperature was 100°, the pulse 80, and the respiration 24. At 8 P.M. half an ounce of urine was drawn by catheter. There was a slight vaginal discharge. On Nov. 6th the pulse was 84, the temperature 99·5°, and the respiration 24. At 2 A.M. nine ounces of urine were drawn off, and at 8 A.M. eight ounces. Milk and barley water, one ounce of each, were given every hour. At 7 P.M. the patient passed naturally eight ounces of urine. The vaginal discharge had ceased. On Nov. 7th the pulse was 80, the temperature 100·2°, and the respiration 20. She passed flatus. On Nov. 8th the patient had beef-tea and meat juice, alternated with the milk and barley water. The pulse and temperature remained about the same, the latter ranging up to 100°. The patient was excitable and easily disturbed by sounds. On Nov. 9th she had chicken with half a wineglassful of Burgundy. Six ounces of warm water as enema had no effect. On Nov. 10th two cascara sagrada tabloids, followed by soap-and-water enema, in fourteen hours caused free action. On Nov. 12th the wound was dressed, all the sutures were removed, and it was healed throughout. On Nov. 16th and 19th the temperature rose to 101°; on the latter day to 102°, and there was a slight discharge from the lower part of the wound. This was entirely superficial, and ceased after a few days' use of the drainage-tube. On Nov. 20th and 21st the temperature was still 101·8°. On Nov. 22nd she had a copious watery motion, mixed with blood and mucus, and very offensive, after which the temperature sank to normal, and the patient gradually improved till Dec. 8th, when she returned home.

Remarks by Dr. GALTON.—I saw her after her return and found the pelvis free from swelling internally, and during my absence owing to severe illness she was seen by Mr. Sidney Turner, who reported that the pelvis was free and the uterus slightly movable.

[1] Greig Smith: Abdominal Surgery, p. 241.

GRIMSBY HOSPITAL.

CASE OF PERFORATING WOUND OF THE RIGHT PLEURA; RECOVERY; REMARKS.

(Under the care of Dr. S. HERBERT HOUSE, house surgeon.)

BY the modern methods of treatment of wounds of the chest involving penetration of the pleura it is well known that most excellent results are obtained. Even in the case of gunshot injuries, Dr. Charles Adams considers that we have now forty-five fewer deaths in every hundred than obtained formerly. There is a general opinion at the present day that, with careful cleansing, all penetrating wounds of the chest may be entirely closed after any accumulation of blood has been allowed to come away. The rapid recovery from the effects of the injury in this case, as evidenced by the patient's condition on the third day, is remarkable.

On April 25th, 1895, a boy aged four years was brought to the Grimsby Hospital with a history of having fallen down a flight of stairs on to some broken crockery, cutting his back. The accident had happened at 7.30 P.M.; he was brought to the hospital after 10 P.M. When seen he was collapsed, breathing rapidly in a jerky way. The pulse was very feeble, 152. Across the back there was a large lacerated wound seven inches long, extending through the muscles to the spine at the level of the ninth dorsal vertebra, and on the right side reaching to the seventh intercostal space, in which there was a wound through the pleura parallel to the ribs an inch and a half long, through which air was whistling in and out of the pleural cavity; the lung was entirely collapsed. The only covering was a dirty blanket. As quickly as possible all parts of the wound were thoroughly cleansed with 1 in 40 carbolic lotion, care being taken to prevent any entering the pleural cavity. There being very little hæmorrhage the wound was sewed up at once with silkworm gut sutures, drawing the skin over the wound in the pleura, and finishing with a firm dressing of cyanide gauze and alembroth wool. During that night the child was restless, but had some snatches of sleep. Respiration varied from 40 to 50. The temperature was 99° F. and the pulse 130 to 150 and over. The next day the child was less restless; he was propped up in bed and in the afternoon he joined in some singing which he could hear from another ward. The pulse was 130 and the respiration 38. That night the temperature was 100°, the only time in the progress of the case it was above the normal; the patient slept quietly all night. The child made an uninterrupted recovery. Respiration on the third day was 30 and the pulse 120. He ate and slept well. The wound healed by first intention, and the stitches were removed on May 1st, when the breath sounds could be heard at the base (right). On May 20th breath sounds could be heard all over the right side. The child was up and running about.

Remarks by Dr. HOUSE.—The points of interest, I think, are that for nearly three hours air passing through a dirty blanket, which was all that covered the wound, was entering the pleural cavity, and the singularly rapid recovery, as on the afternoon of the third day he was singing vigorously as though nothing was the matter with him.

Medical Societies.

OPHTHALMOLOGICAL SOCIETY.

Ophthalmia Nodosa.—Nine cases of Chancre of the Conjunctiva.—Exhibition of Specimens.

AN ordinary meeting of this society was held on June 13th, Dr. ARGYLL-ROBERTSON, President, being in the chair.

Mr. J. B. LAWFORD described cases of Ophthalmia Nodosa, which he described as an affection produced by the penetration into the eye of the hairs of certain varieties of caterpillars; and he related the case of a lad aged sixteen who in September, 1894, came to him with a history of having been struck in the right eye by a caterpillar which had been thrown at him. The skin of the hand with which the lad had touched the caterpillar became irritable and sore, and a number of small white spots developed. The eye became inflamed in the course of a day or two, and when he presented himself there was marked œdema of the lids, with photophobia and lacrymation. The pupil was contracted, the lids could not be everted, and no foreign body could be detected. There was no pain except on exposure to light. He was ordered instillations of cocaine and atropine, and two days later there was less photophobia and the pupil was well dilated and quite round. The upper eyelid was everted, but nothing abnormal could be seen. The lower palpebral conjunctiva was much congested and a few pale papular elevations were visible on its surface. The cornea was clear and there were no synechiæ. A few days later two or three black spots corresponding to the centres of the elevations just referred to were made out with the aid of a lens. On Oct. 4th the eye was rather better, but the lower palpebral conjunctiva was still much thickened, and a number of soft smooth elevations were seen in addition to the white papules. Two small hairs were removed from the lower eyelid, the ends of which constituted the black points alluded to above. No others could be seen. The eye slowly improved, and on Oct. 12th the patient was sent home. Two months later he returned, and the eye was still improving. He was not seen again till Jan. 25th of this year. There had been recurrence of all the symptoms a few days after the last visit. The iris was discoloured, but there were no nodules, and the cornea was clear as far as could be seen. Mr. Nettleship saw the boy in consultation, but it was impossible to make an ophthalmoscopic examination of the fundus. He remained in hospital till March 15th. For four weeks there was very little change in the condition of the eye, which improved for a while and then relapsed. Tension was variable, but about normal. Mr. Lawford mentioned twelve cases which had been reported under different names. In all the diagnosis was ultimately established by the discovery of hairs and their identification as the hairs of caterpillars. In all the cases the inflammation was more or less patchy and the signs were those of iritis or irido-cyclitis, occasionally with diminished tension. In one, a doubtful case, there was detachment of the retina. The nodules were said not to develop for two or three weeks after the injury, but the period was very variable. The malady was specially characterised by repeated exacerbations and remissions. The pupil might become blocked wholly or partially by exudation, as in iritis from any cause. The nodules which constituted the characteristic feature of this affection, had been removed and examined, and they closely resembled tubercles—in fact, only microscopical examination and the discovery of the hair enabled the distinction to be made. One notable fact was the large quantity of atropine required to maintain the dilatation of the pupil. The prognosis must be guarded, dependent as it was on the date at which the patient was first seen and on the intensity of the symptoms. In conclusion, Mr. Lawford pointed out that the affection might very easily be mistaken for tuberculous iritis. All the patients came from the country, and the disease only occurred during the months in which caterpillars were active. In this country there was ground for believing that the insect was bombyx rubi, which did not appear till the month of August. The irritation might be caused by some poison on or in the hairs.—Mr. HARTRIDGE thought that if the symptoms were due to the effects of a poison conveyed by the hairs one would expect them to pass off after a time, and this would not account for the exacerbations; these, he thought, would be more easily explained by assuming that the hairs themselves travelled about from time to time.—Mr. DONALD GUNN said it was commonly believed that severe ophthalmia occurred among soldiers in India in consequence of a certain kind of caterpillar crawling over their eyes while asleep. It was, however, not one of the hairy kind, but had a smooth, green body. He was not prepared to say whether this was anything more than a story.—Mr. LAWFORD, in reply, said the migration of the hairs only appeared to take place for a short time after their entrance into the eye. They then became embedded in collections of cells, the accumulations giving rise to the characteristic nodules. They remained there till they underwent disintegration. There was the fact also that even when there was no evidence of the hairs having reached the iris, this and the ciliary body were both affected. The disease alluded to by Mr. Gunn, if it actually existed, must be essentially different to that under discussion.

Mr. SIMEON SNELL stated that he had collected notes of nine cases of Chancre of the Conjunctiva, and he related some of the more typical seeing that very few had been reported, though they could be by no means uncommon. The first case was that of a woman aged twenty-one with a chancre at the internal canthus involving both eyelids, but the lower in greater degree. The caruncle was also implicated. The ulcer was the size of a shilling and there was much induration. The gland in front of the ear and the submaxillary gland were enlarged. She was a nurse and had probably contracted the disease from an infant, the offspring of syphilitic parents. She was engaged to be married at the time, but the marriage was postponed until nine months later. She had since been pregnant six times, but had never gone to full time. The sixth child, the only one living, was now three and a half years of age. It appeared to be healthy until ten months of age, when it developed signs of congenital syphilis and had since had fits followed by paralysis. The patient herself was well and looked healthy, but there was epiphora as a result of the local lesion. There was no history of the husband having suffered from the disease. The second case was that of a man aged thirty who was first seen on Sept. 20th, 1887. He was married and was the father of five healthy children. He said he had cut his head open and had washed the wound with some blood-stained fluid, the accident having occurred in a slaughter-house. A month later a small spot appeared, and when he presented himself there was an ulcerated surface with indurated base and raised edges involving the entire outer surface of the right upper eyelid. The pre-auricular and cervical glands were enlarged. The patient suffered among other things from an eczematous condition of the penis and scrotum. His wife was seen in June, 1888, having had lumps in the groin with ulceration of the tongue &c. The third case was that of a man aged fifty-five with a chancre on the right inner canthus involving both eyelids at the junction. The pre-auricular gland was indurated. The ulceration healed in six weeks. Nothing was made out with respect to the mode of infection, but he lived in a model dwelling-house in which there were only four towels for eighty persons. The other cases resembled those related; the ages ranged from childhood to adult life, and the cases comprised four males and five females.—Mr. MARSHALL recalled one case in a man aged twenty who presented a small ulcer at the margin of the cornea; the adjoining glands speedily enlarged, and the usual manifestations followed.—Mr. HILL GRIFFITH said the interest of these cases lay entirely in the diagnosis. He saw two or three every year, but he never made the diagnosis unless there was an eruption. The ulcers resembled those due to tubercle, but the induration of the glands was never absent in syphilis. He pointed out that a vaccine pustule presented very marked resemblance to a chancre, and he had collected half a dozen cases which were not yet published. In these there were more infiltration and discharge and the process of development was much more acute.—Dr. BRONNER (Leeds) said such cases were not very rare, but the subjective symptoms might be very slight and patients might recover from the disease without ever coming to a hospital.—Mr. SNELL, in reply, contended that with an indurated sore and enlarged glands there was no need to await an eruption before commencing treatment. If the induration cleared up under mercurial treatment that settled the matter.

The following card specimens were shown:—

Mr. H. SECKER WALKER: (1) Sarcoma of the Iris; (2) Epithelioma of the Cornea and Conjunctiva; (3) Coloboma of the Iris and Choroid.

Mr. DEVEREUX MARSHALL: Cystic Sarcoma of the Ciliary Body.

Mr. MORTON: Microscopical Sections of Tumour of the Face.
Mr. J. B. LAWFORD: Peculiar Coloured Deposits in Crystalline Lenses.
Mr. H. WORK DODD: Congenital Pigmentation of Retina.
Mr. SILCOCK: (1) Congenital Anterior Synechia; (2) Tuberculosis of Eyeball Recovering.
Mr. NETTLESHIP: Case of Retinitis Proliferans.
Mr. DOYNE: (1) Case of Acromegaly; (2) Degeneration of Retinal Arteries.
Dr. BEEVOR: Case of Ophthalmoplegia Externa.

Reviews and Notices of Books.

Das Fieber. Von Dr. G. B. UGHETTI. Aus dem Italienischen übersetzt von Dr. R. TEUSCHER. Jena: Verlag von Gustav Fischer. 1895. (*On Fever.* By Dr. G. B. UGHETTI. Translated from the Italian by Dr. TEUSCHER. Jena: G. Fischer. 1895.)

"FEBRIS est quid neque tu scis, neque ego, neque quisquam medicorum." This quotation from the writings of Stoerk a century ago is given by the author at the close of his introductory chapter to a monograph which, for freshness of style and acuteness of criticism, has well merited the honour of being translated into German. The phrase might have stood as the motto of the work, the whole tendency of which is to demonstrate that, in spite of increasing pathological knowledge and abundant inquiry into this special subject, there is really still profound ignorance upon the essential nature of the febrile process. Dr. Ughetti, who is Professor of General Pathology at the University of Catania, in arriving at a conclusion so humiliating to our scientific pride, has not done so without having fully studied the subject, and his book is one which deserves the most attentive consideration. The subject in itself is one of the most fascinating in pathology, but it must be obvious that we can hardly expect to arrive at the truth of the febrile state until we have cleared up all the problems of animal heat. Crudely stated, the modern conception of the regulation of the heat of the body and its maintenance at a fixed level, which varies with the species of animal concerned, is supposed to be due to the thermotaxis of the nervous system, which controls and balances thermolysis and thermogenesis. This theory, for it is nothing more, also affords scope for the explanation of the febrile process, by referring it in the main to derangement of one or other factor, especially that of thermogenesis. Yet that does not answer the question as to what fever really is, and when we study the antecedents of fever we seem no nearer to a solution. Thus we seem to see in the fever that ensues on inflammation the effect of the absorption of toxines acting injuriously on the thermogenic centres, and similarly with the fever following on specific infection. Yet it may equally be held that the febrile, like the inflammatory, process is nature's effort to antagonise the noxious influence. But it is said that fever may be excited by traumatism apart from any septic or toxic agency, and again that there is no necessary relation between the latter and the amount of fever exhibited. These and cognate problems are discussed with marked ability in chapters on the Causes of Fever and the Theories of Fever. Thermometry, the symptoms of the febrile state, the types of fever, diagnosis and prognosis, and the anatomical changes ascribed to it are treated in turn with lucidity and knowledge. The whole leads up to the moot question of treatment. As stated, it would seem that the antipyretic phase on which therapeutics has entered within the past twenty years, owing much to the powerful advocacy of Liebermeister, is not an unmixed gain, for it all turns on the point whether fever *per se* is of advantage to the organism or not. With not unnatural sarcasm the author shows how venesection, once the routine, gave place to a treatment consisting of covering the body with warm clothing and the administration of hot fluids, which by a violent reaction was replaced by a resort to cold, and this again by the introduction of drugs more or less active in reducing abnormal temperature. He thinks that we have now reached a period of transition, one of indecision, wavering between faith and scepticism, sometimes thinking that the best we can do is to leave the fever alone. Whilst so far agreeing with him that indiscriminate antipyresis, especially in the use of antipyretic drugs, is to be deprecated, and also that too much stress has been laid upon rise of temperature as in all cases justifying a resort to these measures, we are quite unable to agree with him in the invariable adoption of an expectant attitude. He is right of course in saying that when the cause is ascertainable its removal is the only rational line to pursue; but it is impossible to have lived through the experiences of the past twenty years without confessing that, blind as it may be, erroneous as it probably sometimes is, the introduction of antipyresis in its widest sense has effected a marked result on the mortality from fever. Dr. Ughetti says that the action of cold physiologically is to increase the tissue changes that are increased by fever already; but, even admitting this, it must be confessed that the general result is to place the patient in a better condition than he would be were the fever uncontrolled. Moreover, he seems to us to have minimised the results of this treatment, which have been accruing from all quarters since its introduction. Nevertheless his monograph is not to be neglected; it is manifestly the product of a thoughtful mind, and its perusal should not be abandoned because its criticism is keen and its conclusions are novel.

Rapport et Mémoires sur l'Éducation des Enfants normaux et anormaux. Par E. SÉGUIN. Paris: Bureau du *Progrès Médical.* 1895.

THIS work forms the third volume of the *Bibliothèque d'Éducation Spéciale*, edited and prefaced by Dr. Bourneville, physician to the children's department of the Bicêtre. Although Séguin was a Frenchman by birth and education, and some of his earlier work was done in France, political troubles induced him to leave his native land for the United States shortly before the commencement of the second empire, and his life was from that time till his death mainly spent in America. The editor says of him in the preface: "Séguin français est un inconnu en France"—hence the translation into French of works written originally in English by a Frenchman. In the preface is given a review of his life and work. Concerning himself throughout his life with the education not only of idiots and feeble-minded children, but with the principles upon which the education of normal children should be conducted, he was sent as United States Commissioner to the Vienna Exhibition of 1877 to report on the Educational Section. The bulk of this work consists of a translation into French of this report, the second edition of which was revised by the author just before his death in 1880. In Part I. is considered the Education of the Child from the cradle upwards, and in Part II. Education of the Deaf and Dumb. Part III. contains a description of the Methods of Educating Idiots and Weak-minded Children in various countries, and Part IV. is a dissertation on Popular Education as it is and as it ought to be. The author's main contention was for the necessity of educating upon physiological principles; he was opposed to ecclesiastical interference, and was in favour of the co-education of the sexes and of increasing the number of female instructors. In addition to the above-mentioned report there are also included translations into French of two papers by Séguin

which appeared in the *Archives of Medicine* in 1879 and 1880 on the Psycho-physiological Education of an Idiot Hand and the Psycho-physiological Education of an Idiot Eye, both referring to the same patient. The first was translated into French in the *Revue de Médecine* in 1880, and the second is now translated by Dr. Bourneville. The present volume is of value not only to those engaged in the care and treatment of idiots, but also to those who are concerned with the education of normal children.

The Medical Annual and Practitioner's Index: a Work of Reference for Medical Practitioners. Bristol: John Wright and Co. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1895.

YEARLY summaries such as this are naturally welcomed by the majority of the medical profession, and are to many of us practically indispensable. Even the most favourably circumstanced and industrious readers find it a hard task merely to peruse the mass of new observations and suggestions ever accumulating in periodical literature and standard works. To this congestion of information the skill of the practised abbreviator comes as a much needed relief, and the utility of the present work is evidenced by the appearance of the thirteenth annual volume. About two-thirds of the book is taken up with an account of the principal advances in medical and surgical practice recorded during 1894. Under the former of these two headings the treatment of diphtheria by antitoxin serum perhaps claims most attention, and is dealt with in a special article by Dr. Armand Ruffer, honorary secretary of the British Institute of Preventive Medicine. After some details as to the history of the discovery he describes the immunisation of the horses which yield the serum, and quotes statistics showing that the hospital mortality of diphtheria has been reduced by about one-half since the employment of the new remedy. There is also a copious list of pharmacopœial remedies against diphtheria, recommended by various authors. Dr. Colcott Fox reviews Dr. Byrom Bramwell's treatment of psoriasis by thyroid extract, and adds as the result of his own experience that the extract is useful in such cases, though probably not more efficacious than some of the older remedies. The most satisfactory application, apart from its staining effect, is chrysarobin, made up with zinc oxide, lanoline, and vaseline. The thyroid treatment of sporadic cretinism is the subject of an article by Dr. Shuttleworth, late medical superintendent of the Royal Albert Asylum for Idiots, Lancaster. His conclusions are very favourable to the treatment, and its results are depicted in engravings of patients before and after the use of the remedy. The important question of the dietetic treatment of phthisis is discussed by Dr. Loomis of New York in a comprehensive and minutely detailed article of several pages. Meat and milk are the alimentary substances on which he mainly relies. He has known phthisical persons to live for months on nothing else, gaining speedily in flesh and strength. The patient should take six meals a day, with meat in some form at each of them. During the first stage of the disease two pounds of beef at least should be consumed in the twenty-four hours, or its equivalent in the juice squeezed from a lightly-broiled thick steak. The author directs that in all cases the meat should be "rare," a word which in this connexion is the American equivalent for "underdone." Cod-liver oil or one of its preparations is to be taken freely, but cough mixtures are to be avoided as much as possible. Dr. Saundby of Birmingham writes on diet in diseases of the stomach. He recommends that in dilatation, so often associated with catarrh, at least five meals should be taken daily, each not exceeding five or six ounces, care being taken to avoid lumps of solid food. Milk and meat powder, made into gruel, are very useful in these cases. In hæmatemesis from gastric ulcer he gives nothing but nutrient enemata, repeated every four hours, and consisting of an egg beaten up with sufficient milk to make four ounces, with the addition of a drachm of brandy if required. Habitual dyspeptics should use tea and alcohol in moderation only. In another part of the volume there is a notice of the treatment of gastric ulcer by small doses of potassium bichromate as advocated by Professor Frazer of Edinburgh. Among the references to lately recognised and infrequent morbid conditions may be mentioned the memoirs on various forms of Angio-neurosis by Dr. Ramsay Smith, and on Friedreich's disease (general ataxia associated with club-foot) by Dr. Hector Mackenzie of St. Thomas's Hospital. Each of these articles is illustrated by plates. Mr. Simeon Snell of Sheffield contributes a valuable essay on Eye-sight and School-life, accompanied by no fewer than eight plates. This subject, of such importance to the rising generation, deserves the attention of parents and teachers everywhere, and is very competently handled by the author. Briefly, his recommendations are—the avoidance of small print, fine sewing, and unsteady artificial illumination; the necessity of school-rooms which admit plenty of light either from above or on the left-hand side of the desks; the selection of seats provided with backs and of desks of a suitable height. Dr. Smyly, master of the Rotunda Hospital, Dublin, writing on the Prevention of Puerperal Fever, deprecates the usual vaginal examination during labour, and recommends instead of it the external palpation of the abdomen. Having for many years practised the vaginal method exclusively, he at first had a difficulty in believing that external examination could be easier and more reliable; but experience has satisfied him that it really is so, and he remarks that obstetric students trained according to this system make fewer mistakes than those who follow the ordinary procedure. Among the gynæcological operations Dr. Smyly describes vaginal hysterectomy according to the method of Doyen of Reims, and abdominal hysterectomy as practised by Martin of Berlin. He has performed each operation five times; the vaginal hysterectomies were all of them quite satisfactory, but one of the abdominal cases was unfortunately fatal. Abdominal surgery is dealt with under various headings by Mr. Mayo Robson. Under Spleen (surgery of) he makes reference to many cases of successful removal of this organ on account of rupture, "movable spleen," and simple hypertrophy, quoting from our columns[1] the observation that splenectomy in leukæmia has been almost invariably fatal. It is, however, in connexion with lesions of the gastro-intestinal tract that the recent advances of operative surgery have been most apparent. Of these procedures a tolerably full account is given by Mr. Robson, together with references to an ample bibliography. After mentioning his preference for the decalcified bone bobbin in operations for producing entero-anastomosis, he goes on to describe the operations for this purpose devised by Dr. Cozens Bailey and Dr. J. B. Murphy, the former of whom uses a decalcified bone tube, and the latter a two-part button. Several engravings make these explanations quite clear. Mr. Allingham's treatment of intestinal stricture by making a longitudinal incision and transforming it by stitches into an apparently transverse one is explained and illustrated by engravings. Several pages are devoted to operations on the stomach, such as gastrotomy, pyloroplasty, and gastro-enterostomy. The section on the surgery of the gall-bladder is longer, and contains two illustrations showing the method of making an anastomosis between the gall-bladder and intestine in cases of stricture of the bile-duct. Mr. Mayo Robson has performed this operation thrice, each time with success. In recurrent appendicitis the quiescent period is the most favourable time for surgical interference, an instance of

[1] THE LANCET, May 5th, 1894

which was afforded by the series of nine cases successfully operated on by him and published in our pages.[2] Mr. Arbuthnot Lane describes his method of treating oblique simple fractures of the tibia and fibula. He employs a sheet iron splint provided with a foot-piece movable round the axis of the limb and capable of being fixed at an angle corresponding to the natural position of the foot. Recognising the difficulty according to ordinary methods of restoring the obliquely fractured tibia and fibula to their normal outline, he exposes the ends of the bones and brings them into accurate apposition by means of steel screws. Dr. Robert L. Watkins of New York contributes an illustrated description of the Granular Masses in the Blood, or so-called third blood corpuscles, considered to be pathognomonic of tuberculosis. He quotes cases occurring in his own practice which exemplified the value of this symptom as an aid to diagnosis. Sections devoted to New Remedies, Electro-therapeutics, Sanitation, Surgical Appliances, &c., make up the remainder of the volume, which is unquestionably a useful work of reference, well deserving its popularity.

A Medico-Topographical Account of Jeypore. By Brigade-Surgeon-Lieutenant-Colonel HENDLEY, C.I.E., Bengal Medical Department, Hon. Vice-President of the International Congress of Hygiene at Budapest, 1894, and Delegate for Rajputana at the Congress of 1891, &c. Calcutta: Printed by the Calcutta Central Press Company, Limited. 1895.

THIS volume is a record of what has been done in the past as regards health and allied subjects in the city and districts of Jeypore, and is based on the author's experience of twenty years as residency surgeon and thirteen as superintendent of dispensaries at Jeypore, Rajputana. It has been written in the hope that the information may prove useful—as it certainly will, we may add—to the author's successors in the post he now occupies, and in the belief that money will be saved to the State in the future by the prevention of an unnecessary repetition of experiments. The idea is an excellent one, and we concur in thinking that if a somewhat similar account were drawn up for every station in India—as has now been ordered by the German Government to be done for each military cantonment in the German empire—it would prove of real value. The work is full of pertinent facts and details and is copiously illustrated by maps, diagrams, and charts, the preparation and arrangement of which must have cost its author a large amount of time and labour. The topography, meteorology, water-supply, sanitary arrangements, vital statistics, and diseases of the city and districts of Jeypore and various other useful points are set forth and discussed with the local knowledge and experience which Brigade-Surgeon-Lieutenant-Colonel Hendley's long and valuable service in that part have given him. He has every claim to speak with authority on such matters. It should be added that the Jeypore Durbar, with its usual liberality, has borne the expense of publishing the work.

Transactions of the American Gynæcological Society for the year 1894. Vol. XIX. Philadelphia: W. J. Dorman. 1894.

THE nineteenth volume of the Transactions of the American Gynæcological Society, though somewhat smaller than its immediate predecessors, contains several papers of interest. The President, Dr. Lusk, in his address dealt with the Relative Value of the Various Surgical Methods of Treating Uterine Fibroids. He said there was nothing in gynæcology which in an equal degree marked the boundary line between the old order of things and the new as the recent discussions upon the surgical treatment of uterine myomata. He considered that no achievement in surgery had ever borne witness so completely to the triumph of human ingenuity over anatomical difficulties as the safe extirpation of the enlarged uterus, and he referred with pardonable pride to the leading part taken by the members of the society he was addressing in bringing his operation to its present position. At the same time, Dr. Lusk uttered a note of warning against the adoption of radical treatment in every case of uterine fibroids. The argument derived from the supposed liability of myomata to undergo malignant changes seemed to him clinically of little value. Among palliative measures he considered that curetting furnished the largest number of disappointing results. Removal of the uterine appendages for fibroids, which is scarcely to be classed either as a palliative or as a radical measure, had given him satisfaction in five cases that had been under his observation recently. He thought this operation unsuitable for large tumours or cystic tumours, and suggested also that it was probably of questionable value in cases where the fibroids, being situated low down, are nourished more especially by the uterine arteries.

[2] THE LANCET, June 30th, 1894.

Year-Book of the Scientific and Learned Societies of Great Britain and Ireland: comprising Lists of the Papers read during 1894. Compiled from Official Sources. Twelfth Annual Issue. London: Charles Griffin and Co., Limited. 1895.

ABOUT one-fifth of this useful and convenient work of reference is devoted to the medical societies of England, Scotland, and Ireland, the names of the presidents and secretaries and place of meeting being given in each instance, together with the titles of all the papers read during 1894, and their authors' names. A list of the publications of the Medical Department of the Local Government Board is also included in this section. Under the headings "General Science," "Chemistry and Photography," and "Biology, including Microscopy and Anthropology," there are also to be found the titles of many papers on medical subjects and on cognate branches of science. The compiler has succeeded admirably in presenting within moderate limits a summary of a year's work in all departments of knowledge, whether mental or mechanical, scientific or transcendental.

Analytical Records
FROM
THE LANCET LABORATORY.

DISINFECTANT FLUID AND POWDER.
(LAWES' CHEMICAL COMPANY, LIMITED, 59, MARK-LANE, E.C.)

BOTH this fluid and powder proved of standard and reliable strength in regard to the antiseptic and disinfectant contained in them. Thus the brick-coloured powder yielded at least 16 per cent. of active phenols, whilst over one-fourth of the liquid, which is an excellent type of this class of preparation—i.e., an alkaline mixture of resin and tar acid, which on dilution with water gives a uniform milk-like emulsion—consists of true phenols. Inert tar oils are so often contained in preparations vaunted as disinfecting fluids and powders that it is satisfactory to report in regard to the above preparations their freedom from such useless components. In the light of these results we were not unprepared to find that experimental evidence had demonstrated the powerful bactericidal properties of both products, more especially of the fluid.

FOODS FOR THE DIABETIC.
(E. BLATCHLEY, 167, OXFORD-STREET, W.)

As is well known, there is now made a large and excellent assortment of foods which are well adapted to the requirements of patients suffering from diabetes, but amongst the

most satisfactory farinaceous substitutes which have recently been proposed is probably soya flour, and still later aleuronat, which is a flour containing from 80 to 90 per cent. of vegetable albumen and but 7 per cent. of carbohydrate. The care and attention which Messrs. Blatchley have given to these special requirements, especially in regard to palatability, has already been exemplified in the excellent preparations which they have from time to time placed at the physician's disposal, while further examples are afforded in some recent preparations which they have submitted to us, which have for their basis either the comparatively recently isolated albumen (aleuronat) or soya flour, saccharin being added where sweetness is preferred. No. 1 biscuit is prepared from aleuronat, soya, bran, and eggs; No. 2 from soya, coker nut, and eggs; and No. 3 from almond, soya, and coker nut and eggs sweetened with saccharin. They are all quite free from starch, and the taste of each is satisfactory and such as would not lead to the slightest suspicion that the starchy materials which largely compose the ordinary farinaceous articles of diet are entirely absent.

BOISSELIER'S COCOAGENE.

(C. BARRY & CO., 30, ROPEMAKER-STREET, E.C.)

"Cocoagene" consists of round compressed tablets, thicker than, but about the dimensions of, a two-shilling piece, which are composed (according to our analysis) of perfectly pure cocoa, with a large proportion of the indigestible fat removed They contain no foreign addition, the alkalinity of the ash (4·49 per cent.) being only equal to 0·52 per cent. of potash. The form in which cocoagene is made renders it most convenient for preparing the excellent and nourishing beverage which pure cocoa affords.

BORINE ANTISEPTIC AND PROPHYLACTIC.

(MEDICAL NOVELTY COMPANY, 21, WEST TWENTY-THIRD-STREET, NEW YORK.)

Borine is a pale-yellow, spirituous fluid, and is described as "composed of the active constituents of benzoin, wintergreen, meadowsweet, golden rod, and witch hazel, combined with the stearoptenes of wild thyme, eucalyptus, peppermint, and boracic acid." As an agreeable antiseptic for general purposes it possesses many advantages, not the least of which are its pleasant, fragrant odour and its harmlessness. It is well adapted as an effective and pleasant mouth wash, while it has also been advocated as a useful application in obstetric and surgical use.

CORROSIVE SUBLIMATE PELLETS.

(THE SANITAS CO., LTD., THREE-COLT-LANE, BETHNAL-GREEN, E.)

Each of these pellets contains corrosive sublimate in such proportion as to yield pint of disinfectant of the strength recommended by the Local Government Board. For this purpose they are, of course, extremely useful and convenient, but on account of their highly poisonous nature great care should be exercised in regard to their sale. In order to afford some precaution in this direction the pellets are coloured a deep indigo-blue.

New Inventions.

A NEW PORTABLE SECONDARY BATTERY.

THE use of electricity as an adjunct to diagnosis as well as a therapeutic agent when properly administered is now universally acknowledged, but heretofore the clumsiness and weight of batteries, both primary and secondary, have stood greatly in the way of its adoption by general practitioners. The secondary battery which Messrs. Miller and Woods of 2, Gray's-inn-road, have submitted to us is extremely handy and compact. It will either heat a cautery or light a lamp; in the former case the cells are connected in parallel, in the latter in series. There is a separate rheostat for each purpose, so that the degree of light or heat can be accurately regulated.

When exhausted the battery can be easily recharged from the street main, *if the supply is continuous and not alternating*, by connecting the battery up from its lamp terminals to the light-supply, by taking the lead fuse out of a safety cut-out which controls an eight or sixteen candle power lamp and

bridging the gap with the battery instead of the fuse. The battery must be connected so that it works against the street current. This can be easily ascertained by noting the brightness of the interposed lamp. Connect the battery up one way, then reverse by changing the wires; whichever way the lamp burns most dimly will be right. The battery can be seen at any time at the establishment of Mr. T. H Montague, 101, New Bond-street, and we can conscientiously recommend it to the profession as a very useful piece of apparatus.

THE SOCIETY OF APOTHECARIES.—The following changes have taken place in the staff of examiners of the Society of Apothecaries of London:—Mr. Bilton Pollard has been appointed one of the council examiners in surgery, vice Mr. A. Clark, who retires by rotation. Mr. C. B. Lockwood has been appointed one of the society's examiners in surgery, vice Mr. Bilton Pollard. Dr. T. D. Savill has been appointed an examiner in medicine, vice Dr. F. Warner, who retires by rotation; and Dr. Leith Napier has been appointed an examiner in midwifery, vice Dr. Lewers, who retires by rotation. Mr. Stonham has been appointed an examiner in anatomy, vice Mr. C. B. Lockwood.

ON Tuesday evening, June 11th, a complimentary dinner was given by the members of the medical profession in Leamington and the neighbourhood to Dr. F. H. Haynes at the Regent Hotel, upon the occasion of his election as a Fellow of the Royal College of Physicians of London. Mr. J. R. Jeaffreson presided, and there were also present Drs. Thursfield, Thorne, Wyer, Douglas, Smith, Rankin (Warwick), Crowe (Worcester), S. W. Haynes (Birmingham), Tomkins, S. Browne, A. Bullock, B. Rice, Mason, and Olive, Surgeon-Major Hutton, Messrs. Fenn Clark, Morris, T. W. Bullock (Warwick), D. Rice (Southam), A. E. Haynes (Evesham), Growse (Kenilworth), Dickinson, Bradburn, Cowley Atkinson, and R. J. Pitt (Wellesbourne).

THE LANCET.

LONDON: SATURDAY, JUNE 29, 1895.

THOUGH the political crisis and the change of Ministry have put an end to all legislation on controversial subjects for the present Session, they do not affect the interest of the debate on the second reading of the Inebriates Bill. The interest of the motion for the second reading was in the fact that it was carried, and carried in spite of very serious speeches against such legislation by Lord HALSBURY, the Marquis of SALISBURY, and others. The jealousy of any interference with individual liberty is so great in this free country that it is only with the utmost difficulty that it can be in any degree overcome. The habitual drunkard has often his lucid intervals, in which alone he is seen by the world, and in which, too, he often appears to great advantage compared with other men. So that there is something in the proposal to interfere with his liberty which excites, and justly excites, the suspicion and the criticism of men of the world. Other insane people are seen to be so; he rarely. Yet his insanity may be as complete and as destructive of his own interests and those of his family as theirs. The habit may be so continuous, or the paroxysms so frequent and so overpowering; he may be so reckless of his own health, may show so utter a disregard for all decency, and so complete a want of consideration for all those whom he had formerly loved, as to make the word "liberty" in its application to him an absurd misnomer. In the case of the habitual drunkard liberty does not exist. As we have said, these cases are known only partially to the public. They are kept out of view, partly by kind friends and partly by their own glimmering of sense that they are not in a state to be abroad. But they are constantly seen by the medical man. Either the patient himself or his friends appeal, often pitifully, to him for something to be done to arrest a process of steady and often rapid degeneration in character and in health, leading, of course, often to an equally rapid degeneration in circumstances. The medical man is helpless. He tides the patient over an illness and explains to him or to her—for with painful frequency the patient is a woman—the nature of the disease which is assailing him or her. Very often he is rewarded for his faithful warning; but oftener he is not. The prescription of abstinence and self-control is received with apparent conviction and resolution, but he knows only too well that it will soon be forgotten, and that the paroxysms of alcoholic craving will recur till delirium tremens, or hæmatemesis, or other grave disease makes the patient cry a halt, but probably only when it is too late to save health, or character, or fortune. This is a sequence of events that is witnessed constantly by medical men, and it can only be accepted on their evidence.

There is, of course, a large number of cases among the poorer classes very pitiable in their nature which cannot be concealed, and the treatment of which constitutes a large part of the duty of the police magistrate. The cases mentioned by the Lord Chancellor are in point. Out of 33,000 women sent to prison every year for drunkenness 11,000 had not less than ten convictions recorded against them, and of the men not less than 16,000 had each undergone not less than the same number of imprisonments. In one of the London prisons there were at the time of the return quoted 105 women who had been committed from 40 to 133 times in the course of a year. The number of convictions under the same name is not always a guide to the real number. The Lord Chancellor mentioned the case of a woman who had 400 convictions against her, but as her husband had paid £200 in her behalf she must have been 600 times for drunkenness at the police-court.

All medical men are agreed with the view of the late Sir ANDREW CLARK that in such cases short periods of confinement are almost worse than useless and that larger legal powers should be given for controlling and curing them. The severe opposition encountered in the House of Lords the other day was due rather to the fact that the Bill of the Lord Chancellor proposed to give powers of compulsorily detaining for a lengthened period—from one to three years—not only persons who had brought themselves frequently into the police-courts by their drunkenness, but persons who had not done so. Some of the saddest of these cases never appear in connexion with the police. And it is the proposal to give powers for their compulsory detention to a Judge, without the concurrence of a jury, that filled many noble lords—notably Lord SALISBURY—with alarm and led him to make what Lord KIMBERLEY called "too savage an attack" on the Bill. We should concede to the objecting lords any reasonable securities against the hasty action of friends, either from impatience or from more selfish motives. By all means let the judge—perhaps, as Lord SALISBURY said, "with a crank"—have a jury to check him. But, surely, it should be possible to devise some legal provision for the care and control of well-ascertained cases, which would, at the same time, protect cases of a more doubtful or less serious order from interference. The medical profession is not an exacting one. It takes a lenient view of human errors and infirmities, but it has long demanded that the existing Acts for dealing with habitual drunkards should be strengthened. It has no pleasure in mere incarceration or in unnecessary detention; but it aims at curing such persons, and it has a right to expect from the Legislature some help. Law is for the benefit of those who cannot save themselves, and if there is any such class it is that of the habitual drunkard.

IN the *Edinburgh Review* an able writer discusses the question, Is meteorology really a science? "The answer," says the reviewer, "must depend very much on what we mean by the words. If meteorology consists merely in observing and recording temperatures and barometric pressures, it certainly is not a science; if it pretends—as it is not uncommonly supposed to pretend—to foretell the weather of the coming season, again most certainly it is not a science. But, if under the name of science we include the careful and systematic study of the meaning and import of natural phenomena, then assuredly the painstaking attempt to reduce

to some standard of comparison accurate observations of temperature, of atmospheric pressure, of wind force or direction, and the countless changes incidental to these, the endeavour to coördinate them, to discover their relation to each other, their interdependence on each other, which is what is properly understood as meteorology, is as much a science as astronomy, geology, chemistry, or magnetism, in every one of which there is still a great deal of uncertainty, a great deal of groping in the dark." We believe the distinction here drawn and the view expressed to be sound and just, and we have only one exception to take to the above passage. We imagine that no one above the vulgar level conceives that meteorology professes to foretell in advance the weather of any coming season. Every meteorologist will admit that this is impossible, and, so far as we can see, is likely to remain for ever impossible. What is practicable, what is year by year being achieved with constantly increasing accuracy and success, is by a careful survey of all the meteorological conditions present at any given moment to forecast the probable course of the weather during the ensuing day or two. Meteorology may, indeed, go a little further. During a period of prolonged drought or continuous rainy weather it may be possible by a comparison of the barometric pressures over a given large area—say that of Western Europe—for the meteorologist to say that his observations enable him to assert that the general conditions are tending towards a change either in the direction of settled fine weather or the contrary. But the limits of such prevision are very narrow, and nothing in the present state of our knowledge affords the smallest foundation for the hope that we shall ever be able to predict the probable state of the weather—say a month ahead. Those *soi-disant* weather prophets who announce long beforehand with so much assurance that we are going to have a very hot or cold, dry or wet, season are simply audacious pretenders. The writer in the *Edinburgh Review*, while expressing himself with due philosophic caution, indulges in an anticipation for which it seems to us there is but slender foundation. "There is," he says, "underlying all study of meteorological phenomena a hope that it may eventually lead to the calculation of future weather in the same way as—if things so unlike may be compared—the study of astronomy leads to the calculation of the rising or setting of the heavenly bodies, of their eclipses or occultations. ..... But thousands of years had passed in patient observation before the motion of the heavenly bodies was understood, before the problem was solved by the intuition of COPERNICUS or KEPLER, and by the genius of NEWTON. When we reflect on the history of astronomy we may well be hopeful as to the future of meteorology, though the full knowledge may not come in the time of us, or our sons, or our sons' sons, and all that we individually can do is to go on slowly and laboriously accumulating observations of every conceivable kind, not knowing when or how any one set of observations may contain the key to the problem; even as in astronomy the observation of certain small, apparently trivial irregularities in the orbit of Uranus led to the discovery of Neptune." That meteorology will ever be found to obey laws comparable in mathematical exactness to those that characterise astronomy seems to us, we confess, in a high degree improbable. On the other hand, it is impossible to doubt that meteorology does obey definite and invariable laws, and that our knowledge of these laws is only in its infancy. A shower of rain seems the most capricious of things, but we regard it very differently when we come to understand that the annual rainfall at any given spot on the earth's surface is practically invariable. The number of fine, hot days varies much from season to season, but the amount of heat received from the sun by any given locality in the year is a practically fixed quantity.

The leading features of the weather in the British Islands are determined by the prevalence of cyclones or anti-cyclones. Cyclones, we need hardly say, are rotatory movements of the atmosphere—the rotation in the northern hemisphere being against the hands of the clock—around a centre of low pressure, and are characterised by violent winds and heavy rain. They come to us from the Atlantic, travelling from west-south-west to east-north-east, and usually pass over Great Britain somewhere between Aberdeen and the Humber. The force of the cyclone, however, extends far beyond these limits and may be felt over the entire area of these islands. Anti-cyclones, on the other hand, are areas in which the wind rotates in the same direction as the hands of a clock around a high-pressure area, and are accompanied by light winds and fine, clear weather. Unlike cyclones, the anti-cyclones tend to be stationary. Two of the most common centres for anti-cyclones are northern Sweden and south-western Russia. "The normal weather system," says the reviewer, "of this part of the world in winter is a barometric pressure of about 29·9 inches, slowly becoming less towards the north and greater towards the south, with a gentle west or south-west wind and soft blue sky, with scattered flocculent clouds; any variation from this at once speaks of disturbance and calls for examination. The first symptom of an approaching cyclone is a rise—possibly a very considerable rise—of the barometer. This, if it comes from the westward, advancing eastward, is an almost certain prognostic, which is confirmed if the barometer, after its sudden rise, begins to fall as quickly as it rose." Of the causes of these cyclones, why they pursue a tolerably uniform course, why they always move round a centre of low pressure, nothing is definitely known. Of the many hypotheses framed to account for them we may quote the reviewer's statement of one. It is "that cyclones are formed in the great atmospheric currents like whirls in a mill-race; that the cyclones of the North Atlantic which reach our shores are formed off the banks of Newfoundland, where the cold wind from the north drives into the warm, moist wind from the south-west overlying the Gulf Stream. That such a clashing of currents will form a series of whirls is open to observation wherever one stream discharges itself into another, and that they will turn in the direction in which this other stream is going. It is equally open to observation that in such whirls there is a deep hole in the centre, and that the water is heaped up round the outer circumference. ..... It may thus be possible that the cyclones are due primarily to the clashing of two currents, and secondarily to the profuse condensation and

precipitation so occasioned, each cause assisting and intensifying the effect of the other."

We cannot pursue the subject further at present, but our contemporary's article is noteworthy as proving that meteorology has at length made good its claim for recognition among the sciences.

SINCE MOLESCHOTT'S beautiful monograph on DONDERS the medical world has not seen a worthier *immortelle* laid on the tomb of a professional brother than Professor MOSSO'S biographical sketch of KARL LUDWIG. Writing for an Italian public, the Turin physiologist has something to say of the condition of his science when forty-five years ago LUDWIG began his professorial career in the University of Marburg. Vitalism was then the accepted creed, entrenching itself behind the authoritative names of ALEXANDER HUMBOLDT, JOHANN MÜLLER, and JUSTUS LIEBIG; but LUDWIG, reinforced by DU BOIS-REYMOND, HELMHOLTZ, and BRÜCKE, began the steady mining operations by which that hypothesis has had to evacuate one stronghold after another, until, recalling science from the "high *priori* road," he placed it on the sure, if slow, track of observation and experiment by which alone the mysteries of life and death can be reached.

We need not recapitulate, even under Professor MOSSO'S brilliant guidance, the achievements of LUDWIG in research. These were sufficiently touched upon in our obituary notice of the master,[1] when special importance was attached to the weapons he added to the physiologist's armoury—weapons by which nature, in disease as in health, is made the registrar of her own movements, particularly of the blood stream and of respiration. It is his testimony as a pupil, assistant, and eye-witness of LUDWIG and his work that gives Professor MOSSO'S reminiscences their present interest — testimony which, coming from an Italian, our readers will at once appreciate when he says that of all the nationalities by which LUDWIG'S laboratory was frequented, England supplied the largest number, "several of whom form around Professor FOSTER in Cambridge one of the prolific centres of activity in the study of life, and the chief glory of the great master." From this, by a natural transition, Professor MOSSO proceeds to note the services drawn from the same school by other foreigners and reviews the long list of Italians who owe to it their best inspiration and their soundest as well as most striking products. In this connexion he gives some interesting details as to his own work and that of his compatriot Professor LUCIANI of Rome (also a distinguished pupil of LUDWIG) on the prolongation of vital processes in the thoracic and abdominal viscera after life has "officially" been pronounced extinct. "I well remember the emotion that thrilled me when, experimenting along with LUDWIG, we found that twenty-four hours after death the life of the kidneys was not extinguished, that the sanguineous vessels could yet move, and that they reacted under the application of medicaments. ..... The poetic dream of the resurrection has therefore a reality of its own in the mysterious complexity of the organs. Only the brain has yet defied physiological effort to wake it from the sleep of death!" But, on passing from LUDWIG the experimental philosopher to LUDWIG the man and the citizen, Professor MOSSO has much to tell the world of the deepest interest. "LUDWIG," he says, "the greatest of vivisectors, was president of the Leipzig Society for the Protection of Animals, and remained to the last one of its most active members." Germany owes it to him that her horses and beasts of burden are now humanely treated. To him is due that awakening of the true humanitarian spirit towards the brute creation that culminated in the "Verband der Thierschutz-Vereine des Deutschen Reichs" (Union of German Societies for the Protection of Animals). It was mainly from her sense of the gentler attitude to be encouraged towards animals on the part of the rising generation that Leipzig made him an honorary citizen on the fiftieth anniversary of his graduation in medicine. "No physiologist," continues Professor MOSSO, "has ever sought with greater frankness than he to impose just limits on vivisection. The gates of his institute were ever open to all who wished to assure themselves that he, in the midst of his experiments, knew how to spare suffering. The vivisector's art attained such perfection in his hands that, having to sacrifice an animal, he did not let it feel that it was even being tied. He would apply the muzzle and instantly proceed to the exhibition of ether or chloroform, which, in a few seconds, in a dog, for example, made it insensible. It is an error," adds Professor MOSSO wisely—"it is an error to believe that experiments can be performed on an animal which feels. The perturbation induced by pain in the functions of the organism is so profound as to render useless the experimenter's study. It was LUDWIG who uttered the celebrated *mot* that some physiologists, to study the nervous system, act like him who fires a pistol into a watch to see how the chronometer works. Suffering ought to be entirely eliminated from physiological experiment, because the instruments we employ to-day are so delicate that they become unserviceable the moment the animal is agitated or moves."

Illustrative anecdotes without number might be multiplied to prove the real humanity of LUDWIG—of the man who was denounced on anti-vivisection platforms as the "arch-fiend" of the "Nine Circles" and as the keeper of the worst "torture den" in Europe. Well may the physiologist and the physician call aloud, "Humanity! what offences are perpetrated in thy name." Professor MOSSO'S masterly "full-length" of a biologist, a teacher, and a philanthropic citizen, surpassed by none of his generation, ought to send a thrill of shame through the promoters of a mischievous propaganda which, mistaking sentimentality for sentiment, and morbid hyperæsthesia for sound feeling, would have tied the hands of one of the most beneficent students of nature who ever devoted his life to the healing art.

[1] THE LANCET, May 11th, 1895.

ROYAL STATISTICAL SOCIETY.—The sixty-first annual general meeting of this society was held on Tuesday, June 25th, at the society's rooms, 9, Adelphi-terrace, the Right Honourable Lord Farrer, President, in the chair. It was announced that the subject of the essays for the Howard Medal, which would be awarded in 1896, with £20 as heretofore, was as follows: "School Hygiene, in its Mental, Moral, and Physical Aspects." The essays should be sent in on or before June 30th, 1896.

Annotations.

"Ne quid nimis."

H.R.H. THE DUKE OF CAMBRIDGE.

THE announcement by Mr. Campbell-Bannerman in the House of Commons of the Duke of Cambridge's retirement from the position he has held for nearly forty years as Commander-in-Chief of the Army was in itself an incident of national interest and importance, but coupled with the fact that this announcement was directly followed by what practically amounted to a vote of censure of the War Minister himself, on a side issue relative to the reserve supply of small arms ammunition, and the subsequent fall of the Rosebery Government the circumstance was indeed a startling surprise. The intended resignation of his Royal Highness left the Government open to carry out a reorganisation of the War Office and army on the principles embodied in the Hartington Commission, and Mr. Campbell-Bannerman no doubt felt in going to the House that he held a trump card in his hand which he could play with most favourable effect as regarded his party; but the unforeseen is that which happens, as it did in the present instance. We cannot allow the announcement of the Commander-in-Chief's intention to resign his post to pass without a word from us on the subject. The Duke's services were spoken of in very eulogistic terms, and in many respects most deservedly so. An official after occupying a commanding public post for so long cannot sever his connexion with it without general manifestations of sympathy and many genuine expressions of regret. That the Duke is a kindly dispositioned man, that he had the welfare of the army, and especially that of the private soldier, at heart, that he honestly did his best, and that he possessed a wonderful knowledge of all military detail and strong common sense we have no doubt. But it cannot be denied, on the other hand, that he has reached an advanced age, that he has seen younger—we will not say abler—men compulsorily retired, who had done the State good service in different fields and various climates, and that he has enjoyed the fruits and advantages of his office for a very long time. It is impossible that the physical and mental energies, the receptive faculties for new ideas and modern lines of thought and action, and the promptitude of judgment should remain the same in old as in middle age, and the Commander-in-Chief has, therefore, in our opinion, as a Royal Duke, consulted the interests of the Queen and his own dignity, as well as the interests of the public, in acting as he has done. Whether any changes will be brought about affecting the medical service by the creation of a new office and the appointment of a successor is more than we can tell. The Commander-in-Chief has not been invariably credited in his relations with army medical officers with full comprehension of what the department needs, but we are quite sure that he nevertheless carries their best wishes for his health and happiness.

THE ABOLITION OF THE CONTAGIOUS DISEASES ACTS.

IF it be desirable to know how the action of our Government with regard to the Contagious Diseases Acts is looked upon in France, we have an excellent opportunity for enlightenment in a communication which was read at a meeting of the Académie de Médecine in Paris on May 21st last by Dr. Commenge. The documents furnished in England by the Minister of War, said the speaker, have brought the gravity of the case into prominent relief. In 1892, out of 196,336 soldiers 52,155—that is to say, upwards of a quarter of the entire British army—were admitted to hospital on account of venereal disease. In the opinion of the majority of army medical men this extraordinary development of the venereal diseases is with justice to be ascribed to the abolition of the Contagious Diseases Acts; and even the late Dr. Graham Balfour, who was for a time opposed to the regulation of prostitution, changed his views on this point. It will be interesting to draw a comparison, continued Dr. Commenge, between the existing state of affairs in England, where prostitution is free, and that obtaining in France, where, happily, some proscriptive measures still remain in force. In 1875, the year that venereal diseases were most prevalent in the French army, the number of cases was equal to 74·5 per 1000 of strength; during the same year in England the proportion was 139·4 per 1000. The highest rate in the British army is referable to the year 1885 and amounts to 274·4 per 1000; in the French army that year the numbers yield 52·1 per 1000 only. When we examine the returns in order to ascertain the prevalence of syphilis, the following are the results. In the French army the worst year for syphilis was 1875, when the proportion of cases was 11·3 per 1000 of strength. In the British army during the same year it was 28·8 per 1000, and in 1887, when the highest ratio was reached, it was 46·6 per 1000. In France during the latter year the syphilitic rate was only 8·9 per 1000. Dr. Commenge has, moreover, made a study of the sanitary condition of the Russian army, where venereal affections maintain about the same level that they do in the French army, save that syphilis is slightly more prevalent. Needless to say, prostitution in Russia is under the control of the authorities. The relative prevalence of venereal disease in the three armies is shown in the subjoined table, the figures giving the cases per 1000 of strength:—

	England.	France.	Russia.
1889	217·1	45 8	40·7
1890	212·4	43·8	43·0
1891	197·1	43·7	41·5
1892	201·1	44 0	44·6

The following table shows the comparative prevalence of syphilis alone:—

	England.	France.	Russia.
1889	35·7	9·1	12·9
1890	37·3	9·1	13·4
1891	32 2	8 9	12·2
1892	33·8	9·2	13·7

Dr. Commenge next extended his investigations in order to determine the sick rate in the several divisions of the French army, and found that the incidence of venereal disease was largely influenced by the presence or absence of clandestine prostitution in the various garrison towns. Paris, Algeria, and "the Midi" were notorious centres of illicit intercourse, and it was in these districts that the venereal rate invariably attained its maximum. Dr. Commenge brought forward a formidable array of facts and figures in support of his thesis, which was pronounced to be an eminently interesting and instructive work. His conclusions are three in number: 1. Venereal diseases are always far more numerous in countries where there is free trade in prostitution than in those where regulations are in force. 2. The regulation of prostitution serves to attenuate the virulence of the venereal diseases and to hinder their progress. 3. The results now adduced are in accordance with the resolutions of the Académie de Médecine voted in 1888, when the attention of the authorities was drawn to the dangers of prostitution and to the necessity for safeguarding the public health.

A MEDICAL TARIFF FIXED BY LAW.

THERE is a Bill before the Legislative Council of the Cape of Good Hope, a short Bill to amend the Medical and Pharmacy Act of 1891, which provides a tariff of fees for

medical practitioners. No practitioner will be entitled to recover any charges exceeding those in the tariff, "save in pursuance of any special agreement between the parties."

SCHEDULE.

TARIFF OF FEES FOR MEDICAL PRACTITIONERS.

Examination of any person, and certificate	£1 1 0
Every visit within the limits of any town or village—	
By day	0 5 0
By night	0 10 0
Every visit outside such limits, besides the charges allowed by the tariff—	
If travelling at own cost: per hour	0 10 0
If travelling at cost of patient: per hour...	0 7 6
Any confinement	3 0 0
Any certificate of cause of death not involving post-mortem ...	0 10 0
Any surgical operation involving the loss of any limb	10 0 0
Any ordinary surgical operation	0 10 0

It cannot be said that this tariff errs on the side of excess. It is very vague. "Any ordinary surgical operation, 10*s*."! It is very doubtful, too, whether the Legislature is acting wisely in fixing fees. Practitioners who most respect themselves will make their own terms. We shall be curious to know whether such a Bill becomes law.

THE SEARCH FOR A CANCER PARASITE.

THE contribution which Dr. Braithwaite makes to our columns this week adds one more to the list of investigations in the quest for the parasite which is assumed to be at the root of the most formidable class of diseases to which mankind is subject. The labours of histologists have shown that in their structure malignant growths are capable of being classified under certain well-defined groups, according to the type of tissue or organ in which they arise. But histology is silent as to the initial stimulus which gives rise to these aberrant cell masses, as well as to the remarkable potentialities with which they seem to be endowed, so that recurrence *in loco* and general dissemination by the circulating fluids constitute a peculiar characteristic of malignancy. If in these respects malignant disease bears some resemblance to the characters of tubercle, syphilis, and like infective disorders the analogy is purely superficial. For in every member of the class of infective disease the anatomical lesion is limited to the type of inflammatory or granulation tissue, and in none does it partake of the character of the more highly differentiated cells which are to be found in cancers and sarcomas. In the one case the influence of the microbe is confined to exciting changes, which we term "inflammatory," and the dissemination of the foci of disease is restricted to the territories in which the parasite finds a lodgment. If, then, "cancer" (using the term in its widest sense) be also caused by a parasite it must of necessity be an organism which is endowed with quite special powers, for no histologist could declare that there was any real analogy between the processes of aberrant cell-growth in a malignant tumour and those of the small indifferent cells that constitute a tubercle or a gumma. Hence the failure of attempts to extract from malignant tumours by bacteriological methods any organisms of the bacterial class is hardly a matter for surprise. More hopeful of satisfactory result in this search would seem to have been the alleged discovery of cell parasites of protozoic nature; but here, unfortunately, so far the only test that could be applied has been the morphological one, and in spite of the numerous and painstaking researches and the beautiful demonstrations of intra-cellular bodies which have been made it behoves us to be extremely cautious in accepting these bodies as the parasites in question. Similar caution is also needed in regard to the fungi which Dr. Braithwaite has found, and which apparently belong to the class of hyphomycetes. The spores of such fungi abound in atmospheric dust, the readiness with which they germinate is notorious, and although Dr. Braithwaite assures us that he has found their mycelial threads penetrating the substance of neoplasms (recent and preserved) there is room for scepticism when it is remembered that mould fungi are not infrequently found mingling with tissues on the microscopic slide. Apart from any fallacy of this kind, however, it is well to recall that similar fungi have been found in the body—e.g., in the lungs—and have been introduced into it experimentally, with the result that they have either been quite innocuous or have merely excited some local inflammation. If Dr. Braithwaite's inferences are correct, then the fungi he describes should show some peculiarities, according to the kind of malignant growth in which they occur, since it is not to be supposed that one and the same organism could excite the formation of a uterine myo-fibroma, an epithelioma, and a sarcoma. It would be interesting to learn the opinion of a botanist upon the fungus, for if this discovery be confirmed—and the research, as compared with that for the protozoal parasite, is simplicity itself—quite a new light will have been thrown on the *rôle* of parasitic fungi.

SWALLOWING A DENTURE.

THE dangers of the custom prevalent with some people of going to sleep without removing artificial teeth have been illustrated in a striking manner by a case reported by Mr. J. Maxwell Wood in the *British Journal of Dental Science*. A servant girl aged eighteen went to sleep wearing a plate measuring 1⅞ in. by 1¼ in., the attachments being two short gold bands. In the morning the plate was nowhere to be found, and later in the day the advent of a pain in the stomach convinced the owner of the plate that she had swallowed it. On confiding her case to her mistress that lady at once sent for the family medical man, and also, with more zeal than judgment, gave the girl a large dose of castor oil. On the medical man arriving he found that the plate had been passed within an hour of the taking of the oil. That the patient had a very narrow escape both from her accident and its treatment is obvious. Probably she suffered from the usual complaint of her class, chronic constipation, and thus the purgative effects of the oil would do far less mischief than in a case where it would have brought about liquefaction of the fæces.

LIFE INSURANCE OF CHILDREN.

THE withdrawal of Sir Richard Webster's Bill for the regulation of children's insurances does not of course imply either its abandonment or any distrust of the principles upon which it is founded. It is evidence merely of a laudable desire on the part of its author to ensure the permanent utility of his measure by allowing further time for the full consideration of all trade interests which might be affected by it. Despatch in this kind of business is best ensured by careful slowness at its beginning, even though the main features of the Bill may not call for material alteration. Some modification of its terms may, however, be desirable. In its present form it might in the minds of some not too friendly critics appear to suggest an unintended preference for workmen's benefit societies as compared with other more purely commercial companies. However this presentation of the case may express the practical result of inquiries into the use and abuse of this class of insurances, we are certain that no such direct espousal of a party interest was ever contemplated. What is intended is to so guard the method of insurance against possible abuses that it shall best fulfil the purpose for which it was instituted. We are aware that a distinction must in all cases be drawn between real and supposed causes and effects, and we will not deny that an understood connexion between infant mortality and loosely regulated systems of insurance may not constitute proof in a legal sense. After making every allowance, however, it is impossible to regard otherwise than with strong suspicion the fact that in many cases fatal neglect of children by drunken or vicious

parents in respect of food, medical treatment, and every ordinary rule of decency has gone hand in hand with an exact and careful payment of insurance premiums. Nor is it to be forgotten in criticising the terms of Sir Richard Webster's Bill that the sum assured is often much in excess of ordinary funeral expenses, nor that this excess, as also the association of neglect with mortality, has been observed more particularly in connexion with the non-mutual system. In an earlier issue of THE LANCET [1] we directed attention to certain safeguards which were, in our opinion, essential to the proper management of children's insurances. These included a strict limitation of the sum insured to funeral requirements, disqualification of the insured in any case of neglect or other culpable cause of death, and the observance of particular care in death certification. Any measure which would secure the interest of the insured children cannot, in our view, divest itself of these needful conditions. In the proposed Bill they are each provided for. There is a form of insurance which deserves to be more widely known and utilised than it is at the present time. We refer to that which makes provision for some period during the life of the assured, commonly fourteen years of age or later, with the option of a reduced payment in the event of death at an earlier date. It is to be hoped that this scheme of endowment will become increasingly popular. In it we find the true resource of thrifty parents, anxious not so much to meet the pecuniary difficulties entailed by death and burial, as to employ creditably the greater probabilities of life, health, and work.

DIAGNOSIS FOR NOTIFICATION PURPOSES.

A VERY interesting case has been tried at Oldham under the Notification Section of the Oldham Improvement Act, 1880. Dr. George Thomson was summoned before the Oldham Borough Police-court for having neglected to report the existence of typhoid fever at the house of Mr. John Edward Newton, J.P., Lynwood, Greenacres. The information of Mr. Tattersall, medical officer of health, stated that Dr. George Thomson, on May 14th and each succeeding day up to and including May 21st, wilfully and without reasonable cause, he being a medical practitioner called in to visit Lees, Arnold, and Doris Newton, and becoming aware that they were suffering from a certain infectious disease, typhoid fever, did not fill up, sign, and send to the medical officer of health a certificate or declaration of the same according to forms supplied by the corporation. Our readers will recognise at once the nature of the case against Dr. Thomson and the nature of his reply. It is necessary to state that at the time of these cases (May, 1895) influenza was prevailing, and that in one of them at least it appeared to have existed before the typhoid fever. In all it complicated the question of diagnosis and led to delay in notification. Dr. Thomson was called in on May 8th. On the 14th he began to think that he had typhoid fever to deal with and gave intimation of his suspicions to the parent, which seem to have become known to Mr. Tattersall, who visited the house on the 21st and accidentally met Dr. Thomson, who told him quite frankly of the facts and of his views, but added that in the early stages the cases had been difficult of diagnosis and had simulated influenza. The whole unseemly and unnecessary controversy arose from a remark of Dr. Thomson to the effect that on the 14th he had "diagnosed" typhoid fever, but had delayed notifying till he should be sure of his ground. The exact words used were a matter of dispute. But there is no dispute as to the general position which he took up, in which he was supported strongly by the parent, by Dr. Dreschfeld of Manchester, by Dr. Robertson of Oldham, and by Dr. John Hodgson, and which is simply that on the 14th he made what Dr. Dreschfeld happily called a "provisional" diagnosis (what we should call a "working" diagnosis), on which all necessary precautions were taken, and then waited a few days for the confirmation of that. A diagnosis for working purposes is one thing in such cases, and an absolute diagnosis is another. In the Metropolitan Asylums Board hospitals 25 per cent. of cases certified as enteric fever turn out to be otherwise, and in the course of this case at Oldham it transpired that in the Monsall Hospital during the last epidemic of influenza more than one half of the cases sent as typhoid fever turned out not to be such. Of course with such evidence the magistrates came unanimously to the conclusion that Dr. Thomson had not wilfully and without reasonable cause offended against the Act. They dismissed the case, but only allowed £5 as costs, which we think was scarcely fair to Dr. Thomson. However, he and the medical witnesses will have the satisfaction of having vindicated the rights of medical men to be masters of their own minds, and to determine the time when they shall make such a diagnosis as they will not have to regret. We are not apologists for any disloyalty to the Notification Acts or any unfaithfulness in the discharge of duties under them; but these duties are difficult and highly responsible, and they involve on the part of sanitary authorities, and especially of their medical officers, sympathy with medical men and consideration for their difficulties.

[1] THE LANCET, Jan. 19th, 1895.

SIR JAMES REID, K.C.B.

THE consciousness of having done one's duty, of having relieved, if only in an infinitesimal degree, some of the vast amount of sorrow and suffering, is popularly supposed to be the medical man's reward, and this ideal is frequently held out in introductory addresses at the opening of medical school sessions. These rewards, however, appeal only to the recipient, and it is always satisfactory to be able to chronicle a more worldly remuneration as well. Therefore we have pleasure in congratulating Sir James Reid upon the honour which has been conferred upon him in the shape of a Knight Commandership of the Bath, an honour received at the hands of Her Majesty on June 21st. Sir James Reid was appointed to the office of Resident Physician in 1881, and on the death of Sir William Gull in 1889 was appointed Physician in Ordinary to the Queen.

"CLERICAL BREAKDOWN."

AT a recent meeting of the Clergy Home Mission Union Sir Dyce Duckworth read an admirable paper on Clerical Breakdown, of which an abstract will be found in another column. His idea of a diocesan medical officer to report on all candidates for ordination and to certify to their physical fitness for clerical duty is, we think, a most sensible suggestion. "None with any defects or tendencies to disease should be passed unless they were possessed of independent means." These, of course, could devote themselves to doing good work for the Church by literary work or studying and improving ecclesiastical music. "Weakness and inability," said Sir Dyce Duckworth, "heavily handicap any clergyman. He misses his full training, and from the almost inevitable mawkish sympathy on the part of parishioners is only too likely to degenerate into a valetudinarian." We are glad to think, however, that the race of Honeymans, with their "devoteapots"; of the pale young curate who could say—

> "Had I a headache, sighed the maids assembled;
> Had I a cold, welled forth the silent tear;
> Did I look pale, then half the parish trembled;
> And when I coughed, all thought the end was near,"

has almost completely passed away. The parish priest of to-day is a real worker, and the butterfly of the proprietary chapel has vanished together with the lavender kid gloves, the glass of water, the cambric handkerchief, the large Bible,

and the gold watch, which used to be thought necessary for the delivery of a sermon. Sir Dyce Duckworth asked his hearers why they did not sometimes, if pressed, read another's sermon, acknowledging the source. Why, indeed? we may ask; and we might add, Why should there be more than one sermon on a Sunday? To expect a man to compose about two hundred carefully thought out and well-expressed discourses in a year is ridiculous, and yet it is what the average parish priest is expected to do if we include all holy days. Neither should the clergy be worked to death by being made a sort of relieving officer. "Alms," it is true, "do purge away sin," but the distribution of them should be handed over to a church council, of which the parish priest should be the *ex-officio* head.

"BOARDS OF GUARDIANS AND NURSING."

WITH reference to an annotation which appeared in our columns a few weeks ago[1] under the above heading, and which had reference to a very undesirable state of things in a workhouse in South-west Sussex, the board of guardians at their last meeting adopted the recommendations of the visiting committee without any discussion whatever. An epitome of the committee's recommendations was given in the annotation, and, bearing in mind the great importance of the majority of them, entailing as they do a considerable outlay, it certainly reflects the greatest compliment possible upon every member of the committee that their report should be confirmed absolutely without a word; and apparently, as a further compliment, the board gave the committee full power to carry out their recommendations. No time is being lost in removing all the defects, and this particular workhouse should soon be in a position to afford an example for the whole country as regards the nursing of the sick—at any rate, it will give a very good idea of the immense value of the Local Government Board circular issued at the beginning of the year.

LIGHTNING STROKE.

THE indifference with which the inhabitants of large cities pursue their business during the most "terrific" thunderstorms, unmoved by any feeling of danger and inconvenienced only by the rain, contrasts strongly with the awe with which the countryman contemplates the passing storm, and the precautions, almost superstitious in mountainous and moorland districts, which he takes with the view of avoiding a thunderstroke. But the different attitudes are fully justified by facts, the deaths from lightning among the urban populations being far fewer than those caused by runaway horses; for chimneys, church towers, telegraph posts and wires all serve to divert and divide the currents, so that even when one or other is struck the accident is rarely attended by any loss of life, and the streets are among the safest places in a storm. In the country it is quite otherwise; the chimneys of isolated houses, the trees surrounding a homestead, the hedgerow, the barn, the stack under which a man takes shelter, or his own person if he be overtaken in the open, act as so many conductors to attract and concentrate the spark—indeed, the solitary traveller or field labourer is less exposed to danger under trees than when he presents the only "point" in a wide "plane." Dr. Brämer, who has endeavoured to collect and tabulate the circumstances of all deaths from lightning in Germany during the last fifty years, finds that they have been nearly trebled in that period, a phenomenon which he attributes to the increased activity as well as numbers of the rural population. Village churches and schools contribute a remarkable excess of accidents during the hours of service or instruction, as if the aggregation of a number of human beings intensified the danger, possibly by the internal air currents set up. The metal bells might also attract, and the old practice of ringing the church bells during storms has of late years been discontinued; while both causes, the massing of men and of steel, concur to render military encampments peculiarly liable. One-third of the annual average of accidents occurs in July, and the afternoon, or 3 to 9 P.M., gives the highest, and the corresponding period of 3 to 9 A.M. the lowest, number, the actual maximum being reached between 3 and 4 P.M., although the six hours immediately preceding—viz., 9 A.M. to 3 P.M.—contribute fewer than the midnight watches of 9 P.M. to 3 A.M. The popular fear of causing movements or currents of air by driving or running is not unreasonable, but the continuous series of telegraph posts and wires, and of metal rails, render a railway train about the safest possible refuge in a storm.

[1] THE LANCET, May 25th, 1895.

THE LATE MR. GEORGE SMITH OF COALVILLE.

REGRET for the death of Mr. George Smith "of Coalville" will not be limited to the circle of his intimate friends. Mr. Smith was the natural representative of a class of men whose value is understood wherever forethought, sincerity, and disinterested effort are duly recognised. Labouring in the midst of much difficulty, misinterpreted by those whom he sought to benefit, opposed by hostile interests, uninfluential save in his humane resolution, he was able to bring under the wholesome sway of education, and within the range of the other benefits which civilisation offers, a race of nomad children of whose existence society before was hardly conscious; in the Canal Boats Act we possess a monument of his beneficent energy.

CATTLE TROUGHS AND CONTAGION.

IT has repeatedly been asserted that the sanitary reputation of street cattle troughs is not above suspicion. The St. Pancras Works Committee have gone a step further than mere assertion, and have ordered the removal of all such troughs within the parish and the erection of stand-posts in their stead. This action, we are told, has been taken in consequence of the representations of the Master Carmen's Association and others, who maintain that the present arrangement encourages the spread among horses of contagious disease. It is impossible to state with precision how far this view is supported by observed facts. The question is, nevertheless, a very important one and well worthy of becoming a subject of careful investigation by local authorities. In speaking of contagious disease in this connexion the mischievous influence of glanders is at once forced upon our attention. Its prevalence, especially in large stables, its highly infectious properties, the susceptibility of the human subject, and the strange fact that notification of this deadly disease has been entrusted to the horse owner's uncertain intelligence, will suffice to explain the energy shown by the St. Pancras Committee. It must be admitted that their zeal is in this instance not without excuse. On any warm day several equine heads may be witnessed absorbing simultaneously the contents of one and the same trough wherever these are found, and the spectacle is, to say the least, suggestive. Cab horses are largely indebted to the Metropolitan Drinking Fountain Association. They are likewise more particularly susceptible to glanders from the fact that many of them are usually stabled together. Such facts as these cannot be overlooked in dealing with the question before us. If they teach anything it is the relative advantage of providing each animal with a separate water-supply. An extensive change of plan such as would be required to effect this object must necessarily be carried out with due

deliberation. It would also be rendered more thorough by the knowledge derived from a preliminary inquiry into the proof of statements adduced in its support. While admitting all this, however, there can be no doubt, we feel assured, that a new arrangement of stand-posts, with stop-cocks, pails, and gully-holes for the removal of refuse water, would serve every useful purpose cheaply, effectually, and with a nearer approach to sanitary success than the trough system.

PHYSICIANS IN THE OLDEN DAYS.

IN the *Gentleman's Magazine* for July Mrs. J. E. Sinclair contributes an interesting paper embodying a good deal of research upon Old-time Physicians. She quotes, amongst other things, the following treatment that used to be meted out to quacks. "A counterfeit doctor was set on horseback, his face to the horse's tail, the same tail in his hand as a bridle, a collar of jordans about his neck ..... and so led through the City of London with ringing of basins and banished." If only the same thing could be done now the traffic of Cheapside would have to be stopped in order to let the procession pass, but the latter-day quack flourishes exceedingly, and advertises at large in the public press.

THE "INDEX MEDICUS."

IN another column will be found a letter from the Resident Librarian of the Royal Medical and Chirurgical Society concerning the imminent decease of that invaluable publication, the "Index Medicus." When it is remembered that this work is a carefully classified index of the whole of medical literature, not only books but pamphlets and original articles in the medical journals, and that on a reference to it any articles which have been written on medical subjects can be easily found, it will be seen that the cessation of this work would be an incalculable loss. Our correspondent's suggestion that £400 a year should be subscribed by this country is well worth the consideration of the profession and the medical societies, and as such we commend it to them.

THE CAIRO LUNATIC ASYLUM.

"EVERYTHING comes to him who knows how to wait" is a motto of very necessary application for English reformers in Egypt. Difficulties which have existed for the last ten years have now been brushed away, and Dr. Warnock has been installed as the pioneer psychologist of Egypt, although it is true that the native heads of the Government have stipulated that Dr. Warnock's appointment is to be only for two years. Though it is only three months since he arrived, he has already mastered some colloquial Arabic and has set about a number of changes which were of obvious need. Previously some 300 men and 150 women were allowed to sit idly on their beds all day without any means of occupation. Now there may be seen some of the patients engaged in the garden, laundry, and kitchen, while a few work as tailors, carpenters, and basket-makers. The paid gardener has been dismissed as a needless luxury, and his place is supplied by a monomaniac who has believed for years that he is the true Mahdi and now willingly works for the daily wage of a few lumps of sugar. The asylum has been kept very clean for some years, but efforts are now being made to improve its ventilation—efforts which are the more necessary because it must remain overcrowded until some outflow for incurable cases be provided. A post-mortem room has been fitted up, and necropsies are now regularly held by the four native medical men who have been appointed as assistants. There are a few paying patients, and their number will probably increase as the fame of the medical superintendent spreads. Criminal lunatics are not unknown, there being generally four or five homicides among the inmates, who have, as a rule, killed their mothers or other near relatives. Acute melancholia and suicides are very rare, and so also is general paralysis.

IN THE MATTER OF MR. T. R. ALLINSON.

MR. THOMAS RICHARD ALLINSON, of Spanish-place, Manchester-square, appeared at the Marylebone Police-court on Tuesday last, before Mr. Curtis Bennett, to answer a summons issued at the instance of the General Council of Medical Education and Registration for describing himself as a licentiate in medicine. Mr. Muir Mackenzie conducted the prosecution. Mr. Allinson's name, it will be remembered, was removed from the Medical Register in 1892, on substantiation before the Council of the charge that, being a registered medical practitioner, he systematically sought to attract practice by a system of extensive public advertisements of a character discreditable to a professional medical man, containing his name, address and qualifications, and invitations to persons in need of medical aid to consult him professionally. The action of the General Medical Council was later upheld in the High Court of Justice and in the Court of Appeal; and, if the twenty-ninth clause of the Medical Act (1858) has any force and meaning, it was a foregone conclusion that the disciplinary tribunal of the profession would be found to have taken the only proper legal course. Mr. Allinson, however, has continued to use the affix giving him a legal title to practise, and for this he was summoned by the Council, with the result that he has been fined £20 and £10 10*s*. costs or a month's imprisonment in default, Mr. Bennett considering the case a bad one and refusing to entertain an application to state a case. The profession will be glad to recognise by the issue of this case that the General Medical Council is watchful not to allow its decisions to be ignored with impunity.

THE INFLUENCE OF TROPICAL CLIMATES ON MENSTRUATION.

WE have received a copy of a paper dealing with this subject by Dr. Joubert, Professor of Midwifery at the Eden Hospital, Calcutta. It is well known that menstruation appears at an earlier age among the natives of tropical climates than in England, and the impression has been that this was due to the influence of the climate. Dr. Joubert has collected statistics on the subject and he finds that there is very little difference as regards the age at which menstruation appears between Europeans and Europeans born in India who have lived all their lives in that country. Among the natives, however, menstruation does appear at an earlier age than among Europeans; for instance, of the cases referred to in Dr. Joubert's paper menstruation appeared in girls between twelve and thirteen years of age in 36·4 per cent. of the natives, while it only appeared at this age in 13·4 per cent. of Europeans, and in only 10·8 per cent. of Europeans born and reared in India. According to Dr. Joubert the cause of this difference is not to be ascribed to the climate, but to the different social customs prevailing among the natives, and especially to the absence of all privacy in the domestic life of an Indian household, which allows children to become acquainted with sexual matters. Thus, he says, when attending a pregnant or lying-in woman he has often had to ask that the children of both sexes who were present should be sent away. Indeed, from his knowledge of the country Dr. Joubert says he doubts whether there are any little girls or boys who have reached the age of ten years without having a pretty accurate knowledge of what the sexual relations and child-bearing really mean. We think that Dr. Joubert has made out a very probable case for thinking that

climate has comparatively little to do with the early appearance of menstruation among the natives in India. It would be interesting to know, however, whether among races living in colder climates, but under similar social conditions as regards want of privacy, &c., a similar precocity as regards the age at which menstruation appears has been observed.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT the meeting of Fellows on the 4th prox. the President will report that the alterations to By-laws, Section 4, 16, and 25, have been approved by the Secretary of State. He will further report that the Council, in accordance with the opinion of the legal advisers of the College, do not deem it expedient to accede to the resolution passed at the meeting of Fellows in January, requesting the Council to appoint a joint committee of members of the Council and other Fellows of the College to consider the desirability of obtaining a new Charter. No notice of any private motion has, we understand, been given.

THE LONDON COUNTY COUNCIL AND INSANITARY PROPERTY.

AN inquest was held this week concerning the death of a woman who resided in a house in Bethnal-green which was described as being in a filthy and insanitary condition, and which, it was stated, was in the ownership of the London County Council. The chairman of the Public Health Committee of the Council was, at the usual Tuesday meeting of the Council, questioned on the subject, and promised that a report by the Council's medical officer as to the condition of the premises should be presented to the Council at its next meeting. The house, it appears, is one of a number of houses still remaining on the Boundary-street area now being cleared by the Council, houses which have in effect been condemned and are waiting their turn for demolition. Efforts have been made to displace the population gradually and to provide new buildings in substitution for those demolished. Whether there is justification for the continued occupation of the house in question after its acquisition by the Council remains to be seen. Probably it will turn out that the Council, like other landowners, have been quite unable to get the poor creatures inhabiting the hovels which have just come under their control to leave the property.

DIPHTHERIA IN LONDON.

MATTERS do not tend to show much improvement in respect of the prevalence of diphtheria in the metropolis, the records of the fortnight ended June 22nd displaying a succession of deaths greatly in excess of the preceding like periods for some time past. Taking the four-weekly periods since the beginning of April of the present year we find that the respective numbers have been 107, 145, and 156 deaths from diphtheria in London county. These data are therefore exclusive of the numerous deaths which took place in the three months in Greater London. In the three weeks ended June 8th the deaths had been 37, 41, and 33 respectively, but in the succeeding week they rose to 45, being thus 15 above the corrected average for the like week of the preceding decennium. Of these deaths, which were some 25 per cent. of known cases in the week, all were in young persons aged under twenty years, and 31 were in children aged between one and five years. The parishes of Fulham and Lambeth had each 5 deaths credited to them, and the areas of Poplar and Camberwell had each 4 deaths, Rotherhithe having 3. Last week the fatal cases dropped somewhat—namely, to 37—but they were still above the corrected average by 6, and with the exception of one were in persons aged under twenty years, the period one to five years supplying 26 deaths. There were 4 deaths in Mile-end Old Town, and 3 each in Fulham, Shoreditch, Battersea, Greenwich, and Bermondsey. The admissions to the hospitals of the Metropolitan Asylums Board have been gradually increasing in recent weeks, the removals having been 88, 86, 107, and last week 128. In like manner the cases remaining in hospital have shown continual increase in the last eight weeks, having in that period grown from 432 on April 27th to 492 on May 25th, and further to 593 last Saturday. In Greater London the deaths in the last fortnight have been as many as 17 and 15, and those occurring in West Ham district have been respectively 9, and for last week 8, in Canning Town, and 7 in Leyton subdistricts of West Ham registration district.

A COMPLIMENTARY dinner was given to Mr. Christopher Heath at the Langham Hotel on Tuesday, June 25th, by his old house surgeons in recognition of his position as President of the Royal College of Surgeons of England. The guest of the evening was presented with a handsome silver tray as a token of esteem and affection.

A PATHOLOGICAL meeting of the Neurological Society of London will be held on July 11th. Members wishing to contribute are requested to communicate with the honorary secretaries (Dr. Howard Tooth and Dr. Fredk. W. Mott) as soon as possible.

AT the Oxford Commemoration held on June 26th Professor Michael Foster and Sir W. H. Flower, K.C.B., received the honorary degree of D.C.L.

ON CLERICAL BREAKDOWN.[1]

BY SIR DYCE DUCKWORTH, M.D., LL.D. EDIN., F.R.C.P.,
PHYSICIAN AND LECTURER ON MEDICINE, ST. BARTHOLOMEW'S HOSPITAL; HONORARY PHYSICIAN TO HIS ROYAL HIGHNESS THE PRINCE OF WALES.

LET me say at the outset of my remarks that I am deeply sensible of the responsibility I undertake at this moment. To address a body of clergy under the shadow of this majestic Christian temple on the subject of their health requires that I should so speak as to justify my words before a doubly searching criticism, one from your body and one from my own profession. I propose to say nothing of the truth of which I am not convinced, and I will, in advance, crave indulgence for any expressions that may not entirely commend themselves to you or to the general body of the clergy. The subject of my address is one which may well enlist the interest of those I now see before me. I may tell you that the words of my text—Clerical Breakdown—were not chosen by myself, but were given to me as the subject allotted for consideration at this particular meeting of the Clergy Home Mission Union. I therefore venture to believe that you are familiar with the term. Yet it appears to convey something like a stigma upon the clerical profession. We have not yet adopted this term in medical nosology, and it is possible that when we do we may have to add legal, medical, mercantile, and other varieties of breakdown. In truth, we well know what the term means, but you may be sure that your profession has no monopoly of the troubles indicated by it.

It may be affirmed that each profession or vocation has, as might be supposed, its own peculiar line or lines of breakdown; or, in other words, we find men submitting to the inevitable laws of nature and suffering various penalties as the result of a vain endeavour to discard or supersede them, for that is too often the source of breakdown. To maintain health is to conform to the laws of nature, which are the laws of God, and it is as much an article of religion to observe these as it is to obey any other Divine injunction.

[1] Being a paper read at the meeting of the Clergy Home Mission Union, in the Chapter House of St. Paul's Cathedral, on June 12th.

My profession assents to this, and in its name I will here and now repudiate the dictum that was once uttered against it, never true at any time as I believe, and certainly not true now, *Ubi tres medici, ibi duo athei*. The temptations that beset you, as they do all men who are earnestly engaged in good work, are to neglect self and to spend and be spent for others, and thus to go beyond the bodily and mental power which the organism is capable of producing and maintaining. This over-expenditure may be tolerated for a time, but it will not fail to leave its mark on the constitution. I think it is probable that the clergy break down nowadays in larger numbers than formerly. The Church has awakened in the last forty years to a fuller sense of the claims that are rightly made upon her, and the clergy, as a body, work far harder than they were wont to do. The activities of the modern parish priest were little witnessed when I was a boy, and the days of sinecures are well-nigh over. The old fox-hunting and port-wine-drinking parson is almost as extinct as the dodo, and even the higher dignitaries of the Church are, if anything, nowadays over-active and distracted with petty details. The modern bishop is nearly on a par with a railway guard as to the mileage he covers, and any sedentary life now possible in the Church is very properly left for such decanal authorities as have literary tastes. Such an increase in activity, however, is but commensurate with a like increase in other activities, and forms part of the modern phase of intense life which is characteristic of this end of the century. The physician takes note of it and observes its results in his daily work. Robustness of mind not uncommonly goes together with the same quality of body, and the Church has sore need of both. I am far from declaring that a *mens sana* is only to be found in a hardy and robust body, but I will venture to affirm that we more commonly meet with mental twists, eccentricities, and "fads"—all of which are to the physician indications of mental debility—in the possessors of feeble bodies and poorly developed nervous systems. I do not know that it would be a bad plan for each bishop to appoint a diocesan medical officer to report on all candidates for ordination, and to certify to the physical fitness of each for clerical duty. None with any defects or tendencies to disease should be passed unless they were possessed of independent means. The Church and her work would gain more than she would lose by such a course. Without doubt many men are now ordained who are only fit for light duty, for a life in a healthy country parish, or to officiate in small churches. If such men can find their appropriate places and their necessary environment there is no harm done. Weakness and inability are not qualities to be commended in any person, and any clergyman thus constitutionally disposed at the outset of his career is heavily handicapped. He seldom acquires the full training requisite for an active parish priest, and by mawkish sympathy on the part of some parishioners—which is almost inevitable—he is only too likely to degenerate more and more into a valetudinarian. At this stage he perhaps marries. His wife becomes by degrees a badly trained sick-nurse for him, and troubles grow thicker. The poor man is coddled and petted, stuffed with food, and developed into an object of parochial solicitude. As I shall presently show, this pitiable condition may be reached by men who are not naturally delicate. What is to be done with the younger clergy who start on their career with indifferent health or a feeble constitution? In many cases a career in a salubrious colony may be advantageous, and even life-saving in the case of those with a phthisical tendency. Certain foreign chaplaincies are available for a few, though it is not fair that our expatriated invalids should only command the clerical services of persons little stronger than themselves, for not seldom in such spheres there is need of strong and active men to represent Anglicanism as a robust and wholesome branch of Christendom.

We have now to consider the cases of those who, starting with an adequately vigorous constitution, sooner or later begin to fail in health as a result of their mode of clerical life. There are several varieties of break-down to which the clergy are more particularly prone. First, I will mention sore-throat. Clerical sore-throat can be little benefited save by attention to general health, by diminished amount of speaking, and by instruction as to the right methods of producing the voice. The weak part will be helped by attention paid to the whole body, and exercise and other means of securing vigour must be had recourse to. One line of breakdown all too common amongst the clergy is that of the digestive system. A fertile source of this is irregularity in the hours of meals, especially in the later part of the day. The calls and claims of parish duties often appear to necessitate these irregularities. The clergy sometimes make themselves not the servants but the slaves of their parishioners, and are at home to them at all hours on the most trifling pretexts. I note next a cause of breakdown with which I am not unfamiliar, and which must be enumerated in a survey of this subject. I allude to the weakness and disability induced in some of the clergy by an unwarrantable degree of abstinence in the season of Lent. I am not here to touch upon any questions of conscience or of Church discipline. I am too loyal to the width and comprehensiveness of the Anglican Branch of the Catholic Church to presume to commend or to condemn such practices as are ordered with Scriptural warranty by the Church, which practices may be either shibboleths or stones of stumbling to this man or to that. But with a full appreciation of the motives which lead to a Lenten asceticism, it is my duty to say that I can sanction no humiliation arrived at by a positive injury to the bodily organism. I do not believe that a chastened and ill-nourished body commends itself or its works to its Creator, and I conceive it to be the first duty of everyone to keep his health at all times at the highest level. An ill-fed brain is sure to go wrong. Abstinence is sometimes overdone and harm comes of it. This leads me to allude to the custom of receiving the Holy Eucharist fasting. This may be done without harm to health by many, but as the circumstances of the fast must vary very much it is not a practice that can be urged or enforced on all. As a beginning of a day of heavy work I think the practice, for most of the clergy, unwise. I recommend them and the laity to take a cup of good cocoa or tea before leaving home, and I am sorry for the scruples of conscience that anyone may have who objects to this. In any case, as a physician I give this advice in the matter and leave the theologists to do as they like.

After prolonged and monotonous spells of work, and often after irregular and unmethodical work, with inadequate holiday and change of scene, a low state of health may gradually supervene, indicated by listlessness, mental depression, want of zest for work, and feelings of exhaustion. It is always undesirable to fall into this condition. Relief is at first commonly sought by way of domestic remedies, and it is believed that strength may be gained by extra feeding and supplies of stimulants. Sir Andrew Clark used to say that many of the clergy were simply poisoned by their wives with repeated doses of beef-tea and wine given between meals, always with the best intentions. It is certain that no course can be more harmful than this. A thorough holiday and a change of environment, together with a proper dietary, will set all to rights, and the sooner full work is resumed afterwards the better. Improper use of stimulants may be made in conditions such as I have just mentioned, and unwholesome habits may thus be begun. There is, and can be, no rule of universal applicability in respect of the use of stimulants. Here and now I will only say that a little good wine is, in my opinion, very useful for men who are working hard in cities and towns, taken only with one or perhaps two meals in the day. I lay stress on the words *little* and *good*, because I know that harm comes from inattention to either word. Men working in the country may often do without any stimulant, but there is no fixed rule to be laid down. I add, further, that I have known it to be unwise for men who have reached the age of forty to change their simple habits in regard to stimulants and to take to water or temperance drinks, and I confidently affirm that most of the latter are as unwholesome and undesirable as can well be. For those who elect to set the example of abstinence—and all honour to them—I would say, begin early in life if you have any change to make in your habits. The medical, like the apostolic, precept, however, in this matter, the precept of good sense for the great majority of mankind, is to "let our moderation be known unto all men." In this injunction St. Paul, of course, makes no allusion to moderation either in food or drink. The original word used may nevertheless be fittingly applied to the temper of mind in which the great alcoholic question should be approached and considered: ἐπιεικὲς may for this purpose be translated fair-mindedness, or, in Matthew Arnold's words, "sweet reasonableness." With this principle to guide them the clergy and others may, I think, turn a deaf ear both to the nonsense so constantly declaimed from

so-called temperance platforms and to the vulgarities and impertinences of Sir Wilfrid Lawson. I have known excessive tobacco-smoking to lead to dyspepsia and bad health in certain of the clergy. Here, again, it is only necessary to commend moderation. The habit grows by indulgence, and I have met with the worst cases in men who have been lazy in their parishes, men who wear their slippers all day, live in their studies, and grow into indolence and grooviness. A robust parish priest is not likely to over-smoke. Grooviness is to be avoided, and times for due relaxation are to be set apart. I much approve the Bishop of Winchester's advice to his clergy on this point. He recommends as much of one day in the week as possible to be devoted to relaxation and change of scene, and one evening in the week at least to be allotted to the social side of parochial life. In this way a clergyman comes to know and influence his flock more effectually than by constantly appearing amongst them officially. His presence is to brighten and purify the occasions of family gatherings and festivities, and to set the lesson how best to be in the world, and yet not be of the world.

I have long thought that shorter and more varied services would meet many of the difficulties you have often to encounter, and why some of you do not, when hard pressed, read the sermons of others, and tell the congregation whose words you are uttering, I do not know. Many evening services are too long after a hard Sunday's work. You and your people are all tired, and, once fatigue sets in, no good is to be done. For the clergy, as for other busy professional men, the key-note of life must be robustness both of brain and stomach, and robustness of muscle; and with these come wholesomeness of mind and a clear, right judgment. All this is very English, and if Anglicanism is to commend itself and win the day, as it surely will if we be true to it, the work will be done on the lines I have indicated, and "fads" and feebleness will fall away and leave us the victors—victors because we have obeyed the laws of nature, which are for us the laws of God. Remember, lastly, that in honouring your bodies you do honour to the shrine of God the Holy Ghost, Who dwells in them.

THE ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH FOR THE ADMINISTRATIVE COUNTY OF LONDON.

II.[1]

As an officer of the London County Council Mr. Shirley Murphy enjoys the privilege, that, inasmuch as the authority he serves is an entirely new creation, it is not, or should not be as yet, so hopelessly fettered by precedent as is unfortunately the case with some of our more venerable institutions. Mr. Shirley Murphy has, therefore, had the advantage of a free hand, not only in determining the form and general character which the important series of reports of which the second number is now before us should take, but also in devising such a comprehensive set of table charts and diagrams as shall most clearly and graphically illustrate the statistical details of the series. We are pleased to note that he has taken care to avail himself of certain of the more useful statistical devices which of late years have come into vogue for the elucidation of health problems. Thus, for example, we find that in deciding upon the age-grouping to be adopted in these reports he has found it expedient to abstain from deviating materially from the general usage of the Registrar-General, many of whose well-known tabular forms, charts, &c. have been introduced in this new series. In the supplement to the Registrar-General's report for the decennium 1861–70 Dr. Farr published the first life table ever constructed for London. Twenty years later the medical officer of health of the London County Council has constructed another life table for London, the basis being the statistics of the decennium 1881–90. It should be borne in mind, however, that these statistics do not distinguish between the inhabitants of London who were born within the county and those who, having been born elsewhere, have migrated into London. Mr. Shirley Murphy's life table, therefore, deals with a population of avowedly mixed constitution living in London in the decennium 1881–90. As both of these life tables have been constructed on the same plan—namely, the "short method" of Dr. Farr—they are of course strictly comparable. The earlier table, however, does not show the expectation of life at the various ages; but, as these are important for purposes of comparison, Mr. Shirley Murphy has computed the expectations for the whole of the ages from five years and upwards. Before proceeding to compare the two life tables we may remark that by publishing his recent table Mr. Shirley Murphy has set an example to other health officers, which we hope they will not omit to follow. He has definitely shown that it is unsafe and absurd to compare the mortality of different areas, even in the same city, on the basis of the crude death-rates merely, without making allowance for the varying age constitution of the populations compared. It will be remembered that in the first annual report a table was given showing how the district death-rates may be approximately corrected for difference in age and sex composition of population. That table has, we are glad to find, been continued in the report for 1893. It is one of the best and most useful in the report. Mr. Shirley Murphy's new life table is given in two parts, Tables C and D. In Table C the survivors of 1,000,000 born, of each sex, are traced through life at each separate year up to five years of age and afterwards in quinquennial and decennial intervals up to eighty-five, the mean probability of living, and the deaths occurring in each age period being shown in separate columns. In Table D the survivors of 509,078 males and 490,922 females born are separately shown, and to these figures are added the future years of life which will be lived by the survivors at each age in the table; the expectation of life or average future lifetime at each age is also given. In Table E the survivors out of a million persons born, according to the two life tables, are instructively compared. It is surprising to find that, whilst in 1861–70 out of a million children born 305,518 died within the first five years of life, in 1881–90 only 309,495 deaths occurred within the first twenty years of life; the survivors at twenty years of age in the later decennium being, therefore, almost as numerous as the survivors at five years of age in the earlier. Table F shows that the expectation of life of males at five years of age has improved from 47·5 years to 50·8 years, and that of females at the same age from 50·9 years to 54·4. At subsequent ages there is in all cases an improvement, though relatively less than at age five, showing that the greater part of the life-saving takes place in the periods of youth and early maturity. Now that the initial labour of constructing a life table for the metropolis has been accomplished it will be easy to use the table in future as a means of comparing the mortality of each successive year with what we may term the standard rate of the London life table of 1881–90. In this way a useful record of progress or of regress will be available, which must prove of real and permanent value as a measure of the efficiency or otherwise of local sanitary administration.

Coming now to that very interesting section of the report which deals with the causes of death severally, we regret that considerations of space forbid our doing more than notice very briefly one or two of the points which Mr. Shirley Murphy has thought worthy of special treatment in his report. Statistical material of this kind lends itself but imperfectly to the condensing process, and we accordingly have no choice but to refer our readers to the report itself for

[1] Part I. was published in THE LANCET of June 22nd, 1895.

further information on what must be considered, from a medical point of view, the most important section of the work, treating as it does of the causes of the deaths of not fewer than 90,000 of our fellow citizens in the course of a single year. We have no difficulty, however, in selecting for exceptional comment Mr. Shirley Murphy's remarks regarding the part played by school attendance in relation to the spread of diphtheria and scarlet fever, two diseases which have in recent years shown increased prevalence in London, and therefore caused much trouble both to the school managers and to the hospital authorities of the metropolis.

Mr. Shirley Murphy gives tables showing the notified cases of diphtheria and scarlet fever in London, together with the mortality incidental thereto in recent years. The London death-rate from diphtheria in 1893 was more than double the rate in any of the largest English towns, except West Ham; it was ten times as great as the death-rate in Nottingham, and six times as great as that in Liverpool. But it is not until the age incidence of fatal diphtheria in London comes to be studied that a clue is afforded to the probable cause of the recent increase in the fatality of this disease. Statistics, the preparation of which must have cost much labour, have been compiled for the purposes of this report, and from a careful examination of these Mr. Shirley Murphy draws the following conclusions. 1. That antecedently to 1871–80, when the diphtheria death-rate *at all ages* was rising, the rate at *school ages* (*three to ten years*) rose in less degree than the all-age rate; and when the all-age rate was falling the rate at ages three to ten years fell in even greater degree than the all-age rate. 2. That in the decade 1871–80, with a general decline of the diphtheria mortality at all ages, there occurred at ages three to ten years a relatively higher diphtheria death-rate than before—that is to say, the diphtheria mortality at ages three to ten years did not fall in 1871–80 in anything like the same degree as did the diphtheria mortality at all ages. This new departure is most conspicuous in London, but it is also noticeable in a less degree in other parts of the country with which London has been compared. If the metropolitan rates of 1891–93 are contrasted with those of 1855–60, it is found that in 1891–93, while the all-age death-rate had increased 313 per cent., that at the ages three to ten years had increased 457 per cent.; and again, if compared with the rates of 1861–70, it is found that the all-age death-rates in 1891–93 had increased 196 per cent., whilst that at the ages three to ten years had increased 309 per cent. Now it is important here to note that in 1871, the year immediately following that in which the Elementary Education Act first came into operation, there was in London a noticeably increased incidence of diphtheria mortality at school ages, which increase has been maintained ever since and has in later years been much accentuated. With the object of ascertaining, if possible, how far school attendance is influencing the spread both of diphtheria and scarlet fever in London, Mr. Shirley Murphy has constructed diagrams showing the registered weekly number of cases of diphtheria and scarlet fever respectively in relation to the mean weekly number for the entire year. For this purpose the cases of both diseases notified in 1893 have been divided into three classes: (*a*) those occurring in children under three years of age, (*b*) those in children from three to thirteen years of age, and (*c*) those in persons above thirteen years old. The sick cases may therefore be considered in relation to school operations, these three groups representing practically (*a*) those who are too young to attend school, (*b*) those at the school period of life, and (*c*) those who have for the most part left school. Accordingly, curves have been constructed showing the number of cases occurring in each of these groups; and in respect of both diphtheria and scarlet fever practically the same important fact at once becomes apparent—namely, that in the four weeks of August, 1893, there was a most remarkable depression in the curve for all ages, the depression being much more strongly accentuated in the curve relating to children of school age. These diagrams show clearly that, whatever the cause, there was in 1893 a sudden and noteworthy diminution in the prevalence of diphtheria and scarlet fever in London during the period which corresponds generally with the closure of the London Board schools, and that very shortly after their reopening early in September an almost equally serious increase in the prevalence of both diseases took place.

Having regard to the limited period for which returns of notifiable infectious diseases are as yet available in London, we are not surprised that the county medical officer of health contents himself for the present with placing before the Council the facts bearing upon the important subject of school attendance in relation to the spread of certain communicable diseases. When, however, the facts for a few more years are forthcoming, we shall hope to hear more on a subject which is of transcendent importance, whether viewed in relation to public health or to elementary education.

THE EXHIBITION OF HYGIENE AND CONGRESS ON PRACTICAL SANITATION AT PARIS.

THE Exhibition of Hygiene[1] will be inaugurated at Paris by M. Félix Faure, President of the Republic, on the 27th of this month. We have already explained that this Exhibition was organised in view of the new law which compels all houses in Paris to drain directly into the sewers, for as yet only 5447 blocks of buildings out of about 80,000 are drained in this manner. In view of this great reform, a reform which will be extended as rapidly as possible to provincial towns, a new sanitary society has been formed in France. It is called the Society of Sanitary Architects and Engineers of France. Its headquarters are at 10, Cité Rougemont (Hôtel des Ingénieurs Civils), and its object is to group together those architects and engineers who have studied questions relating to practical hygiene, to encourage such studies, to spread knowledge of hygiene among the artisans engaged in these professions, and to bestow such honours and recompenses as may stimulate the knowledge of sanitation among those concerned in the practical realisation of sanitary reform. In the execution of this programme the society in question has determined to hold a "Congrès d'Assainissement et de Salubrité" at the Exhibition of Hygiene. The opening of this Congress will coincide with the inauguration, at which the members of the Congress will assist, of the vast irrigation grounds and sewage farm of Achère on Sunday, July 7th. The sittings of the Congress will be held in the *locale* of the Exhibition—namely, the Palace of the Liberal Arts at the Champs de Mars. Though not, strictly speaking, an international congress, foreign adherents will be heartily welcome, and members from Belgium, Denmark, England, and Spain have already been enrolled. The admission fee is twenty francs, to cover the cost of printing the report of the Congress and its free distribution to members. All communications should be addressed to the Secrétariat Général du Congrès, Palais des Arts Libéraux, au Champs de Mars, Paris. Anyone taking an active part in sanitary reform can become a member of the Congress. It is needless to say that this Congress is patronised and encouraged by the French Government, and that its members will have a unique opportunity of studying and visiting all the sanitary services in Paris, as also the Exhibition, to which they will be admitted free of charge. One of the principal subjects of discussion will be the drainage of small towns or large villages. This is a phase of sanitation which has been, comparatively speaking, neglected. The other subjects are the treatment and utilisation of domestic slops; the rules that should govern private

[1] THE LANCET, April 6th, 1895.

thoroughfares; public baths; the conditions governing the application of syphon traps to the interior of inhabited dwellings; the disposition of rooms in dwellings; the necessity of an effective control of the sanitary services in private dwellings; the rational warming of dwellings; the professional teaching of hygiene; and the unification of methods employed in drawing up sanitary statistics. The latter subject will be treated by Dr. J. Bertillon, Chief of the Paris Statistical Department. On most of these questions printed reports will be distributed to the members before the Congress meets, and these reports will be discussed at the morning sittings. In the afternoons private members may introduce other questions for discussion. This Congress will, in conjunction with the Exhibition, have the advantage of lifting sanitary questions out of the domain of mere theory, and of compelling everyone to face and study the difficulties of practical application. As an ounce of practice is worth a pound of theory the Exhibition and Congress should be well supported.

A MATTER OF ETIQUETTE.

WE publish below what we may hope is the final correspondence in a matter to which we have previously referred upon several occasions—namely, the relations between the Vestry of St. George's, Southwark, and Dr. Waldo, their medical officer of health. To recapitulate shortly, the Vestry demanded of Dr. Waldo that he should revise other medical men's certificates, unknown to them, for they were not always satisfied with the certificates submitted. Dr. Waldo refused absolutely to commit such a breach of medical etiquette. He appealed to the Local Government Board, and the Board has decided that he is right. We congratulate Dr. Waldo on the stand he has made for courtesy and righteous dealing. Now the case of the School Board and its discourteous resolution of May 30th stands on exactly the same footing. The School Board has appointed medical men to revise other medical men's certificates, presumably unknown to the original authors of the certificates, and at the bidding, moreover, of the divisional superintendent, a layman. It is to be hoped that the Education Department will convey to the Board an opinion that the Board have acted in, to say the least of it, an impolitic manner. The question, we suppose, will come up at the forthcoming meeting of the Board, and if the Board is wise it will rescind a resolution which ought never even to have been submitted. The following is the correspondence alluded to above:—

St. George-the-Martyr, Southwark,
Vestry Hall, Borough-road,
May 23rd, 1895.

To the Secretary,
Local Government Board.

DEAR SIR,—I am desired by the Vestry of St. George-the-Martyr, Southwark, to ask the advice and guidance of your Board in the following difficulty:—

When Dr. Waldo was appointed medical officer in the year 1892 he signed the enclosed list of regulations, and in accordance with Regulation No. 19 he bound himself to visit professionally the employés of the Vestry when sick, as the Vestry allow sick pay, and they are not always satisfied with the medical certificates submitted, for they fear that malingering is not unknown. In carrying out this regulation, Dr. Waldo finds himself in a position of difficulty. If he calls on any employé without communication with the medical attendant who gave the certificate, he informs the Vestry that he will be guilty of a serious breach of medical etiquette, and if he gives notice to the employé's medical attendant and arranges a formal consultation the Vestry feel that the value of such visit will be lost, and they will be involved in considerable expense.

If Dr. Waldo finds himself obliged to report to the Vestry that the certificate of the medical attendant was not justified by the patient's condition, his relations with the local medical men will become strained and his work as medical officer of health suffer. Some members of this Vestry, on the other hand, are of opinion that the Post Office, the large supply associations, and some large friendly societies, require that visits (with the object of detecting malingering) should be paid by their own officers. They see no reason why Dr. Waldo should not accordingly fulfil the terms of his engagement, without prejudice to his status in the medical world and without offence to medical etiquette.

Yours faithfully,
(Signed) A. MILLAR, Vestry Clerk.

Local Government Board, Whitehall, S.W.,
June 12th, 1895.

SIR,—I am directed by the Local Government Board to acknowledge the receipt of your letter of the 23rd ult., relative to the duty undertaken by Dr. F. J. Waldo, the medical officer of health for the parish of St. George-the-Martyr, Southwark, "to attend, if required, the flushers and sewers men and other employés of the Vestry during illness," and requesting the Board's advice and guidance in the difficulty which has arisen in regard thereto. The Board have carefully considered the representations on the subject submitted in your letter and in the report of Dr. Waldo which accompanied it.

On the general question the Board would observe that as regards duties of a somewhat analogous character which at times devolve on the medical officer of health under the Infectious Disease (Notification) Act, they have laid it down that even when question arises as to the good faith of a certifying medical practitioner the medical officer of health should, if it becomes necessary to revise a certificate, not only seek the coöperation of the medical practitioner concerned, but should also observe, as far as possible, the customs that usually govern the relations of medical practitioners to each other. On the particular case submitted in your letter of the 23rd ult. the Board do not gather that the undertaking entered into by Dr. Waldo "to attend if required" on certain employés "during illness" involves any obligation on his part to revise either the diagnosis or the certificates granted by other medical practitioners who have been called in to attend on such persons. I am, Sir, your obedient servant,

(Signed) W. E. KNOLLYS,
Assistant Secretary.

A Millar, Esq., Vestry Clerk, Borough-road, S.E.

THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A MEETING of the committee of the Association of Fellows of the Royal College of Surgeons of England was held at 101, Harley-street, at 5 30 P.M., on June 26th. Mr. T. Holmes, one of the Vice-Presidents, occupied the chair, in the unavoidable absence of the President, Mr. George Pollock, and there was a large attendance of members of the committee. The minutes of the last meeting of the committee were read and confirmed. The honorary secretary, Mr. Percy Dunn, reported that he had duly issued the circular-letter addressed to the Fellows adopted at the previous meeting of the committee. He then read letters from five Fellows of the College desirous of being elected as Members of the Association. These were proposed and seconded by members of the committee and unanimously elected.

The honorary secretary reported the proceedings at the deputation to the committee of the Council which took place on the 10th inst., as already reported in THE LANCET of June 15th. In reference to this matter the honorary secretary reported that the deputation had been asked by the committee of Council to draw up a *précis* of the arguments adduced in favour of their propositions for amending the charters and by-laws, and that the subcommittee appointed by the committee of the Association at a recent meeting had already commenced this *précis* and now submitted it to the committee. After some discussion, the committee approved generally of the work of the subcommittee, and requested them to complete it as soon as possible.

A resolution was proposed, seconded, and unanimously passed, expressing the hope that all the members of the Association would record their votes in favour of Mr. Willett, Mr. Norton, and Dr. Ward Cousins.

With respect to the annual general meeting of the Association it was decided that the date should be fixed by the committee after the election at the College on the 4th prox.

This concluded the business of the meeting, and the committee adjourned.

METROPOLITAN HOSPITAL SUNDAY FUND.

WE continue below our record of some of the principal amounts received at the Mansion House, the lists of which have been received at THE LANCET Office, up to the time of our going to press on Thursday, when the total sum received amounted to nearly £31,000. At the corresponding period last year the total was £26,500 :—

	£	s.	d.
St. Michael's, Chester-square (Canon Fleming), with additions	1175	9	0
Christ Church, Lancaster-gate (Rev. C. J. Ridgeway), with additions	1171	0	11
Theistic Church (Rev. C. Voysey), with additions	156	0	0
St. Jude's, South Kensington (Rev. E. A. Eardley-Wilmot)	804	5	9
Earl of Feversham (a further)	100	0	0
St. Paul's, Beckenham (Rev. C. Green)	140	0	0
St. Bartholomew's, Sydenham (Rev. W. A. Moberley)	152	8	2
Holy Trinity, Tulse-hill (Rev. E. L. Roxby), with additions	143	18	4
St. George's, Hanover-square (Rev. D. Anderson)	208	14	1
St. Saviour's, Paddington (Rev. M. Tweddell), with additions	109	3	8
St. Peter's, Kensington-park-road (Rev. H. G. Rosedale)	114	13	9
All Saints', Ennismore-gardens (Rev. R. Stewart)	480	8	1
St. Peter's, West Dulwich	160	7	10
Mrs. G. Palmer (a further)	105	0	0
Holy Trinity, Sydenham (Rev. H. Stevens)	188	8	10
St. Mary's, Kilburn (Rev. J. Robertson)	104	12	8
Christ Church, Hampstead (Rev. G. F. Head)	205	19	5
Rosslyn Hill Unitarian Chapel, Hampstead	156	1	8
St. Barnabas, Kensington (Rev. G. R. Thornton)	93	14	7
St. Philip's, Earl's-court (Rev. W. Smale)	110	7	3
St. Augustine's, Queen's-gate (Rev. R. R. Chope)	100	0	0
Immanuel, Streatham-common (Rev. G. S. Streatfield)	108	16	10
"F." (a further)	50	0	0
St. Augustine's, Highbury (Rev. J. McCormick)	73	0	9
Grosvenor Chapel, South Audley-street (Rev. W. F. Elliott)	65	11	2
St. Luke's, West Holloway (Rev. H. Pitt)	42	0	8
St. Mary Abbot's, Kensington, Parish Church and Missions (Rev. the Hon. E. Carr Glyn)	514	14	9
St. Martin-in-the-Fields (Rev. J. F. Kitto)	119	15	10
St. Matthew's, Bayswater (Rev. E. A. Stuart)	217	0	11
St. Andrew's, Wells-street (Rev. W. T. Houldsworth)	108	18	11
Holy Trinity, Upper Chelsea (Canon Eyton)	231	7	6
St. Stephen's, South Kensington (Rev. G. S. Flack)	177	5	1
St. Margaret's, Westminster (Archdeacon Farrar), with additions	186	11	11
Clapham Congregational Church	49	12	0
All Saints', St. John's-wood (Rev. J. Richardson-Eyre)	42	18	6
St. Mary's, Hornsey-rise (Rev. W. S. Lewis)	50	0	8
Lewisham Parish Church (Rev. S. Bickersteth)	45	0	0
Holy Trinity, Knightsbridge (Rev. C. C. Scholefield)	58	18	8
St. Paul's, Clapham (Rev. H. Hughes)	42	13	10
Christ Church, Chislehurst (Rev. W. Fleming)	50	6	8
St. Andrew's, Fulham, and Mission (Rev. E. S. Hilliard)	59	6	10
St. Augustine's, Kilburn (Rev. R. C. Kirkpatrick)	50	0	4
St. Paul's, Canonbury (Rev. J. Fox)	42	19	2
Barnes Parish Church (Rev. B. M. Kitson)	50	10	8
St. Mildred's, Lee (Rev. F. W. Helder)	42	1	5
Chipping Barnet Parish Church (Rev. D. W. Barrett)	42	17	1
Heath-street Baptist Chapel, Hampstead	48	10	2
Aldenham Parish Church	51	0	6
St. Paul's, Camden-square (Rev. G. Tiley)	58	0	7
Christ Church, Marylebone (Rev. O. P. Wardell-Yerburgh)	44	16	9
St. Paul's, Forest-hill (Rev. W. Klein)	57	13	9
St. Peter's, Dulwich-common (Rev. H. J. Pulley)	47	14	9
Holy Trinity, Anerley	47	3	9
St. Mary Magdalene's, Paddington (Rev. W. H. Bleaden)	50	19	0
St. John's, Downshire-hill (Rev. R. B. Girdlestone)	45	3	10
Upper Norwood Presbyterian Church	52	0	0
St. German's, Blackheath	49	11	0
St. Stephen's, Hampstead (Rev. J. Kirkman)	41	0	0
Church of the Immaculate Conception, Farm-street	42	0	0
Carmelite Church	31	7	9
Church of the Ascension, Blackheath (Rev. A. L. Lambert)	30	0	0
St. John's, Bromley, Kent (Rev. P. Barker)	31	2	0
St. Stephen's, Clapham-park (Rev. S. Wainwright)	30	5	8
Chapel Royal, St. James's Palace (Rev. E. Sheppard)	145	12	0
All Saints', Margaret-street (Rev. W. Allen Whitworth)	84	1	3
St. Sophia's, Bayswater (Greek Church)	96	3	6
St. John's Presbyterian Church, Forest-hill	77	0	0
St. Marylebone Presbyterian Church	60	14	5
Royal Military Chapel, Wellington Barracks	61	5	2
St. Paul's, Great Portland-street (Rev. C. G. Williamson)	62	16	0
St. Stephen's, Ealing (Rev. B. S. Tupholme)	62	0	0
St. John's, Blackheath (Rev. J. W. Marshall)	80	5	10
St. John Evangelist, Penge (Rev. W. Smyly)	81	5	0
St. George's, Tufnell-park-road (Rev. W. T. Hollins)	61	4	6
St. Peter's, Streatham (Rev. H. B. Dickinson)	67	15	6
St. Michael and All Angels', Blackheath-hill (Rev. A. E. Barnes-Lawrence)	69	12	3
Rochampton Parish Church (Rev. R. Carrington)	85	0	3
St. James's, Holloway (Rev. E. G. Hodge)	69	10	3
St. Mark's, North Audley-street (Rev. J. W. Ayre)	94	9	5
St. Saviour's, Pimlico (Rev. H. Washington)	68	4	3
St. Andrew's, Westminster (Rev. the Hon. J. S. Northcote)	77	0	10
Christ Church, Highbury (Rev. C. H. Bamling)	90	3	3
St. Mark's, Hamilton-terrace (Canon Duckworth)	173	18	9
Putney Parish Church and St. John's (Rev. the Hon. R. Henley)	76	10	0
Clapham Parish Church (Rev. C. P. Greene)	73	0	2
St. Matthew's, Champion-hill (Rev. J. R. Porte)	86	17	9
Highgate Parish Church (Rev. J. M. Andrews)	72	0	6
St. Paul's, Hamlet-road, S.E.	70	11	4
St. Paul's, Avenue-road	94	12	10
St. Saviour's, Upper Chelsea (Rev. L. C. Walford)	93	14	3
St. Mary's, Balham (Rev. T. Bates)	80	0	0
St. Paul's, Wimbledon-park (Rev. E. C. Brace)	58	10	6
Hornsey Parish Church (Rev. J. Jeakes)	67	8	10
Regent-square Presbyterian Church	80	18	7
Dulwich College Chapel (Canon Daniell), with additions	60	0	0
Park Presbyterian Church, Highbury	30	10	0
St. Paul's, Kilburn (Rev. H. G. B. Hunt)	37	3	2
Crouch Hill Presbyterian Church	32	9	4
Regent's Park Baptist Chapel	30	0	2
Hammersmith Parish Church (Rev. J. H. Snowden)	37	8	9
Highgate Presbyterian Church	33	2	2
Dartford Parish Church (Rev. P. E. Smith)	33	19	6
St. Peter Arbley, Barnet (Rev. D. W. Barrett)	34	7	2
St. John's, Upper Norwood (Rev. W. F. La Trobe Bateman)	34	19	3
Holy Trinity, Eltham (Rev. T. N. Rowsell)	38	11	1
St. Andrew's, Stoke Newington (Rev. H. E. J. Bevan)	32	1	8
Monken Hadley Parish Church (Rev. F. C. Cass)	33	2	6
All Saints', Notting-hill (Rev. W. R. Trench)	32	14	11
St. John-at-Hackney (Rev. F. E. Gardiner)	37	14	3
St. Mary's, Graham-street	34	0	0
St. Thomas', Upper Clapton (Rev. F. W. Kingsford)	33	5	10
St. Olave, Woodbury Down (Rev. W. Healey)	31	1	8
Brixton-hill Wesleyan Chapel	41	6	11
Chislehurst Wesleyan Chapel	31	3	0
St. Andrew's, South Streatham (Rev. W. G. C. Cubison)	34	2	1
Chislehurst Parish Church (Canon Murray), with additions	354	13	7
Christ Church, Westminster (Rev. F. N. Aglionby)	30	0	0
Camden Church, Camberwell	51	13	4
St. Mary's, Boltons (Rev. W. T. Du Boulay)	57	7	0
Highbury Quadrant Congregational Church	66	19	7
Trinity Presbyterian Church, Streatham	51	0	7
St. Paul's, Finchley (Rev. S. B. Mazall)	44	1	6
St. Luke's, Battersea (Rev. F. N. C. Bell)	41	8	10
St. Peter's, Eltham-road	35	3	7
St. Matthew's, West Kensington (Rev. Dr. Shields)	32	4	1
St. Stephen's, Westminster (Rev. W. H. G. Twining)	40	0	0
St. Anne's, Soho (Rev. J. H. Cardwell)	54	6	6
Holy Trinity, Roehampton	80	0	3
St. Mark's, Reigate	46	7	0
Upper Holloway Baptist Chapel	28	16	6
Holy Trinity, Lyonsdown, and St. James's, New Barnet	25	1	7
St. Mary Magdalen, Enfield (Rev. G. P. Turner)	27	14	6
Kilburn Presbyterian Mission	22	6	10
Streatham Wesleyan Chapel	22	13	1
Old Malden Parish Church	21	10	7
Camden-road Presbyterian Church	28	3	0
St. Paul's, Mill Hill (Rev. E. C. Lethbridge)	26	1	7
St. James the Less, Westminster (Rev. W. H. Blackley)	24	9	0
St. George's Presbyterian Church, Brondesbury	21	0	0
Holy Trinity, Stroud-green (Rev. R. Linklater)	23	6	11
Woodford Parish Church and Mission	22	2	0
St. Saviour's, Highbury	26	17	8
St. Anne's, Highgate-rise (Rev. C. T. Ackland)	28	8	3
St. Mark's, Bromley, Kent	28	16	0
St. Giles-in-the-Fields (Rev. H. W. P. Richards)	25	0	0
Clapton Park Congregational Church	29	8	0
St. Paul's, Greenwich	22	7	0
Hayes Parish Church, Kent	26	14	8
St. Mark's, Regent's Park (Rev. W. J. Sparrow Simpson)	20	11	4
St. Paul's, Upper Holloway (Rev. J. Piper)	20	1	0
St. Saviour's, Denmark Park	25	15	1
Bloomsbury Baptist Chapel	23	4	10
Bloomsbury Mission Hall	21	0	0
All Saints', West Dulwich	21	0	0
Mr. W. M. Cross, C.C.	20	0	0
All Saints', Child's Hill (Rev. W. D. H. Petter)	20	1	1
Mr. C. H. T. Hawkins (a further)	21	0	0
Christ Church, Woburn-square (Rev. J. J. G. Nash)	28	5	3
St. Anne's, Limehouse	20	1	9
St. Dunstan's, East Acton (Rev. T. M. Hayter)	25	11	7
St. Mark's, Battersea-rise	22	3	11
"H. S."	20	0	0
Holly-park Wesleyan Chapel, Crouch-hill	27	11	10
St. John's, Skicup	23	14	10
Willesden Parish Church (Rev. B. S. Atlay)	20	3	0
St. Cuthbert's, West Hampstead (Rev. W. J. Watkins)	21	11	6
St. Lawrence, Catford	20	17	4
St. Saviour's, South Hampstead (Rev. G. A. Herklots)	21	3	10
St. Paul's, Paddington (Rev. R. Jamblin)	23	1	9
Downs Baptist Chapel, Clapton	24	8	6
St. Saviour's, Brixton-hill	23	5	5
St. Paul's, Walworth, and Mission	29	10	4
Christ Church, Harlesden, Reformed Episcopal	28	16	4
St. Barnabas, Pimlico (Rev. A. Gurney)	20	17	2
St. Andrew's, Stockwell	25	12	9
St. John's, Clapham-rise (Rev. C. H. Bowlby)	33	0	6
St. Mark's, Notting-hill (Rev. W. E. Emmet)	30	3	6

Other amounts have been received and will be published in our next issue.

MOKATTAM: A SANATORIUM FOR CAIRO.

BY GREENE PASHA.

SOJOURNERS in Egypt—and in these days, whether as seekers after health or merely on pleasure bent, their name is legion—must know the Mokattam heights, must be familiar, by sight, at all events, and by name, if not from actual excursion, with the flat-topped range of nummulitic limestone hills that overlook the city of Cairo to the south-east, forming an effective background for the picturesque cluster of battlemented buildings known as the Citadel. Elevated some 400 or 500 feet above the plain, the summit of Mokattam consists of a plateau in three tiers, so to speak, each tier being fairly level, and the three collectively constituting a superficies sufficiently extensive for the accommodation of a large suburb, but arid and desolate to the last degree for lack of water. Not many visitors ever take the trouble to scale the breezy heights, because there is "nothing to be seen" as a recompense for the climb except an obsolete fort and a second-rate ruin or two. In a land where objects of interest exist in such profusion on every side, and are withal so readily accessible, it is not considered worth while to encounter a somewhat tiresome ascent, but the few who do expend a portion of their superfluous energy to this end are amply rewarded by the view, which, beyond all comparison, is the most magnificent in Egypt.

The usual route to Mokattam is along a causeway that was originally constructed for military purposes in connexion with the above-mentioned fort, and although this pathway, which opens out directly behind the citadel, is both precipitous and dilapidated, it is nevertheless accessible to that wonderful and long-suffering animal, the Egyptian donkey. There is also a more circuitous and considerably longer road, with an easy gradient, which a small outlay would render practicable to the ordinary Cairo Arabiyeh; and should the requisite enterprise be forthcoming a funicular elevator could with the greatest facility be constructed in connexion with an existing railway that traverses a deep cutting at the foot of the hill. In India wherever there is raised ground in the neighbourhood of a town or cantonment it is promptly taken advantage of for the erection of hot-weather bungalows, but the idea of so utilising the Mokattam plateau seems never to have seriously occurred to the European community of Cairo. That such neglect of a great natural advantage should have prevailed under the old *régime* is perhaps comprehensible; but it certainly does seem a strange thing that the Anglo-Indians, who are now so comparatively numerous in Egypt, should have taken no steps in the matter. When our countrymen feel that they require change of air—a respite, as it were, from the foul smells and coprophagous microbes of the undrained city—they betake themselves to Helouan or Matarrieh and even make little of the nine miles to and from Mena at the foot of the Great Pyramids; but the notion of a sanatorium close at hand, in the pure atmosphere up above their heads, and within easy reach of the various Ministries and public offices, has altogether escaped their ken; and, yet, as has been suggested, the scheme could be so readily carried out—there are absolutely no difficulties in the way, and the boon to the whole population would be enormous. The aerial project could be made an actual reality with the utmost ease. A little energy, a little money, and the thing is done. A haven of refuge in sickness would be opened out for all, numberless lives would be saved, and European parents would be enabled to keep their children with them throughout the entire year, instead of having to send them home from the summer heats, as at present. A sufficiency of water could be raised by pumping, or possibly a supply might be conveyed in pipes by means of gravitation alone, if the intake were to be carried far enough up the Nile. Given an adequate water-supply and a ready means of access, there seems to be no reason why a Mokattam sanatorium should be condemned as utopian or impracticable. During the cholera epidemic in 1883 some of our troops were encamped on the hill, with excellent results; and I have heard of at least one English official[1] who had a tent pitched there in order to be able to sleep in a purer atmosphere than the town itself affords. It would unquestionably be a great boon to the European inhabitants of Cairo in general if a healthy and easily reached suburb could be added to this city.

The following description of the view from the site of the proposed sanatorium is from the pen of an eye witness. As just said, there is "nothing to see" *on* Mokattam, but where in the wide, wide world can the view from its summit be surpassed? Let the spectator, provided with a good field-glass, take his seat near the edge of the well-nigh perpendicular cliff, in the shade of the ruinous old tomb that stands at the brink of the first terrace. Immediately beneath his feet is the citadel; he obtains a veritable bird's-eye view of the famous fortress, with its palaces and mosques, parade grounds, and umbrageous gardens. At the western verge of the parapet, the reputed site of the Mameluke's leap, stands the veneered temple erected by a solid enough man, Mohamed Ali, and called by his name—a hideous and incongruous edifice, redeemed from utter reprehensibleness by its twin minarets, a pair of slenderest arrow-like pillars that seem about to wing their way into the blue sky above them. Many as are the minarets of the land of Egypt, there is none can compare with these for grace and symmetry. As delicate examples of lapidarian skill, or rather genius, their super-excellence is unapproachable. They may, as many say, be totally out of keeping with the remainder of the structure; they may, in the jargon of the day, be devoid of all *motif* and congruency, but in the humble estimation of one uncultured Philistine at least they remain things of beauty and a joy for ever. On the level ground, at the base of the old-world ramparts, stands the celebrated pile called the Mosque of Hassan, over which the dilettanti are wont to rave, though why the prison-like mass of masonry, with its huge up-and-down walls crowned by gigantic and minatory cornices, should evoke such unlimited enthusiasm is an insoluble mystery, more especially when I call to mind the damning fact that every stone in those walls was reft by shameless iconoclasts from the mighty monuments at Gizeh. To the right extends a labyrinthine mass of neutral tint constituting the native town—grimy and unlovely, it is true, on close acquaintance, but here happily embellished by the enchantment of distance. The swarming multitudes throng in and out and to and fro—as it were, a congeries of manikins. Backwards and forwards they glide in ceaseless motion, while, harmonised by space, arises the not unpleasing murmur of the restless tongues that at close quarters would be deafening. Here and there, in a more open space, a parti-coloured conglomeration of humanity seems to squirm and oscillate, being swollen or depleted the while by continually arriving or departing units; but should the eye select one of the latter to track to its destination—hey, presto! in a moment it has vanished from view, swallowed up in some narrow alley or dim arcade. On the left the modern division of the town expands in more gorgeous array, separated from the older part by the mighty artery which Mohamed Ali, with a characteristic mixture of despotism and enlightenment, drove straight through the heart of the labyrinth. The great avenue thus created is indeed an artery in the literal meaning of the word, and has rendered yeoman service to the city from a hygienic point of view, whatever may be said of it æsthetically. The autocrat to whom Egypt may be said to owe her existence simply issued an order, and lo! in the twinkling of an eye a thousand and one obstructions vanished; the destructive creator, if such a compound term be permissible, said the word, and a broad, straight, airy boulevard took the place of squalor and unmitigated crookedness. Further still to the westward are the modern habitations of the Ismailiyeh quarter, palatial in appearance, and for the most part standing in the midst of spacious gardens, where trees, shrubs, and creepers unite in producing a gorgeous display of floral treasure—of a truth ideal dwelling-places, save for the latticed windows and the lofty walls, the secluded harem, and the ostentatious Salamlik. On the extreme right is Abbasiyeh, the military quarter, with its extensive drill grounds, bounded on one side by the picturesque ruins known as the Tombs of the Kings, and on the other by the fertile fields of Matarrieh. Across the entire picture, in the middle distance, flows the majestic Nile, his broad breast covered with the graceful sails of countless dahabiyehs, and spanned by a noble bridge at Kasr-el-Nil—sole relic of French predominance, in spite of the leonine effigies, so emblematic of

[1] Colonel Fenwick of the Police.

Britain's power, that guard the entrances. Beyond the bridge appears the playground of Ghezireh, sacred to polo, golf, cricket, tennis, racing; while further on is many-palaced Ghizeh, amidst acacia-shaded avenues and lovely pleasaunces. In the distance, to the north-west, the meandering river may be traced for miles through meadows of the most vivid green; and, to crown all, on the horizon the Pyramids stand out against the sky, completing the picture and imparting to it a distinctive character that elsewhere does not exist. The island of Rodah, too, in the left foreground, must not be omitted, with its quaint buildings and bountiful foliage; nor must the general effect and local colouring, due to the countless mosques and glittering pinnacles, remain unmentioned in this imperfect list.

It is easy to give a catalogue of details, but when it comes to a *tout ensemble* the difficulties grow well-nigh insuperable. How is it possible to convey an adequate idea of the glorious translucency, the exquisite clearness, of the atmosphere? What master of language could describe the blending of colours, the effects of light and shade, the thousand and one minutiæ that at once appeal to the eye? The words of Byron express the scene better than any words of mine can do:

> "The blue sky,
> So cloudless, clear, and purely beautiful,
> That God alone was to be seen in Heaven."

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Liverpool Urban Sanitary District.—The population of Liverpool, calculated on the assumption that the annual decrease observed between 1881-91 has continued, is estimated at 507,203. As, however, there has been a natural increase of 13,419 since 1891, it seems probable that the above inference is fallacious, and there are, Dr. E. W. Hope observes, strong indications for estimating the population at 531,397. Liverpool holds, Dr. Hope points out, a unique position as a purely urban municipality—i.e., one from which the natural suburban outgrowths are excluded, and which does not embrace within its registration area any semi-rural districts such as form part of other large towns. This fact is well shown by the density of population in Liverpool, which is twice as great as that of London, seven times that of Leeds, nine times that of Norwich, and fourteen times that of Huddersfield. The general death-rate of Liverpool was, for 1894, 23·8 per 1000, a rate lower than any yet recorded, save in 1888, when it was 23·1. The ward death-rates ranged during 1894 from 16·4 to 41·3. As instancing the effect which the age distribution of a population has upon its death-rate, Dr. Hope shows that if the population of Liverpool consisted entirely of persons between twenty and thirty the death-rate would be 7·8 per 1000; while if, on the other hand, it consisted entirely of children under one year it would amount to about 223·5 per 1000, and if above sixty years to 67·1 per 1000; and these rates would obtain quite apart from any change either way in the sanitary condition of the city. Comparing the number of cattle killed in the city slaughter-house with the number of dead carcases imported, it appears that during 1894 the number of cattle slaughtered was 6000 less than in 1893, a deficit which was made up for by the importation of 6000 dead carcases. As regards sheep, too, we are told that during 1894 there was a decrease, as compared with 1893, of 51,000 in the number killed in Liverpool, while there was an increase of some 40,000 in the number of carcases imported. These figures are certainly extremely interesting, and they raise some important questions in regard to the inspection of meat-supplies. *A propos* of this, we notice that in 1894 there were 1087 carcases seized by the medical officer of health and the inspectors, and of these 214 were condemned in consequence of the animals having suffered from tuberculosis. In view of the recent report by the Royal Commission on Tuberculosis some observations as to the extent of the tubercle would have been of much interest; but doubtless Dr. Hope's very instructive report was in type before the Commission's report appeared. "Charitable shelters" are, it appears, not unknown in Liverpool, and some difficulty has arisen as to their sanitary condition. Liverpool is, we are pleased to see, continuing her crusade against insanitary property, and Dr. Hope has recently reported on two circumscribed areas—one on the north and the other on the south side of the city. There are altogether 577 houses concerned, and it has been ascertained by careful inquiry that in three contiguous streets the death-rate is respectively 63·1, 67·0, and 71·4 per 1000. The houses, as a rule, consist of three rooms one above the other and connected by a staircase leading directly from one room into another. The houses are back-to-back and side-to-side, so that back or side windows are impossible. The property is, Dr. Hope states, in a general condition of dilapidation and ruin; "the outer walls and ceilings are stained by saturation with vapour of breath and are foul-smelling." There were fifty deaths from typhus fever in Liverpool last year.

Poplar Urban Sanitary District.—The Bow portion of this district has for the last twenty-one years been under the medical officership of Mr. R. M. Talbot, who in his current annual report furnishes an interesting contrast to the sanitary condition of the district in 1874 and 1894. The general sanitary condition of Bow will, Mr. Talbot states, "to-day bear the strictest investigation and compare favourably with any similarly constituted area in the world." Mr. Talbot has had considerable experience of the physical conditions of bakers, and he states that they are especially subject to chronic bronchitis, rheumatic gout, and cardiac weakness, all of which, he thinks, are in a great measure due to the nature of their occupation and the conditions under which their work is performed. The Poplar and Bromley portions of the Poplar district are reported upon by Mr. F. W. Alexander. He states that the condition of the Thames continues to improve, and as bearing upon this he refers to the capture of whitebait, jelly-fish, and shrimps off Erith, and the discovery of dace off Greenwich and Westminster. Mr. Alexander thinks that the Thames would quickly regain the name of "silvery" if the "West Ham sewage ceased to be discharged into the Lea and Thames, and increased sewer accommodation were afforded by the London County Council, so as to obviate the necessity of the numerous storm outlets, and if all other great sources of pollution were prevented." Unfortunately some of the "great sources of pollution" are made up of an aggregation of small pollutions which it is by no means easy to control while London maintains her position as the commercial centre of the world.

Portsmouth Urban Sanitary District.—Dr. B. H. Mumby records in his current annual report that during 1894 twenty-two cases of small-pox were notified. Eighteen of these showed good vaccination marks, and all recovered. The remaining four died, and of these three had never been vaccinated, while the fourth, if ever vaccinated, showed no signs of the operation. Truly, as Dr. Mumby remarks, in the face of such facts there should be no difficulty in getting children vaccinated. Unfortunately, however, the vaccination officer reports that he has every year an increasing difficulty in enforcing the Vaccination Acts. Diphtheria, we are glad to note, shows no signs of increasing in Portsmouth, and Dr. Mumby has observed that the greatest incidence of the disease is in those parts of the town situated on the London clay. Notification has now been in force in Portsmouth for eleven years, and during this period the death-rate for the four notifiable diseases has been reduced from 1·54 per 1000—the mean of the eleven pre-notification years—to 0·69, the mean of the eleven notification years.

Plumstead Urban Sanitary District.—With a view of impressing upon the public of Plumstead the fact that measles is a dangerous infectious disease, cards have been drawn up and distributed setting forth the necessity of taking proper precautions. Dr. Sidney Davies does not, however, consider that much good would result from adding measles to the notifiable diseases. Arrangements have also been made for disinfecting rooms which have been occupied by patients suffering from phthisis; but, although Dr. Davies informed all the local medical practitioners of the provisions which had been made, only three applications for disinfection were received up to the time of sending the annual report to press. An outbreak of scarlet fever occurred during 1894 among the scholars attending a certain Board school, and Dr. Davies's locum-tenent detected several previously unrecognised cases.

Croydon Rural Sanitary District.—Dr. Darra Mair's repor

on the sanitary condition of this district is a very thorough one and bears evidence of much hard work. The statistical side of the report is especially well developed and should be of considerable local value. A remarkably mild epidemic of measles occurred during 1894 in the parish of Wallington, and although there were 336 cases notified but one death resulted. Unfortunately the initial cases were unnotified and were not discovered until the schools became implicated and the outburst occurred. The schools were closed on Oct. 3rd, and after the 20th of the same month no further cases were notified from houses occupied by the school children; school closure would therefore appear to have been of value in this instance. Measles, as will already have been gathered, is notifiable in the district now referred to, and Dr. Mair, as the result of the very considerable experience he has gained from the epidemic, thinks that any advantage gained from notification would accrue equally if the provision applied to infected houses only. He thinks that the saving in expenditure might be applied to the notification of diarrhœa and phthisis.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6604 births and 3284 deaths were registered during the week ending June 22nd. The annual rate of mortality in these towns, which had declined in the six preceding weeks from 17·7 to 15·4 per 1000, rose again last week to 16·2. In London the rate was equal to 15·1 per 1000, while it averaged 16·9 in the thirty-two provincial towns. The lowest rates in these towns were 6·8 in Croydon, 12·3 in Blackburn, 12·6 in Brighton, 12·7 in Norwich, and 12·8 in Newcastle-upon-Tyne; the highest rates were 18·9 in Halifax, 19·3 in Plymouth, 20·4 in Manchester, 21·4 in Oldham, and 25·1 in Liverpool. The 3284 deaths included 400 which were referred to the principal zymotic diseases, against 294 and 399 in the two preceding weeks; of these, 124 resulted from measles, 111 from diarrhœa, 67 from diphtheria, 49 from whooping-cough, 24 from "fever" (principally enteric), 23 from scarlet fever, and 2 from small-pox. No fatal case of any of these diseases occurred last week in Croydon, Norwich, or Burnley; in the other towns they caused the lowest death-rates in Sheffield, Halifax, and Salford, and the highest rates in Wolverhampton, Preston, West Ham, Liverpool, and Cardiff. The greatest mortality from measles occurred in West Ham, Plymouth, Cardiff, Liverpool, and Manchester; from whooping-cough in Gateshead; and from diarrhœa in Cardiff, Leicester, Preston, and Bradford. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 67 deaths from diphtheria included 37 in London, 5 in Liverpool, 4 in Wolverhampton, and 4 in Birmingham. One fatal case of small-pox was registered in Liverpool and 1 in Oldham, but not one in London or in any other of the thirty-three large towns. There were 22 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, June 22nd, against 22, 23, and 19 at the end of the three preceding weeks; 8 new cases were admitted during the week, against 1, 5, and 2 in the three preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 1732 against 1524, 1589, and 1637 on the three preceding Saturdays; 251 new cases were admitted during the week, against 187, 179, and 199 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 163 and 152 in the two preceding weeks, rose again to 186 last week, but were 31 below the corrected average. The causes of 51, or 1·6 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Oldham, Newcastle-upon-Tyne, and in ten other smaller towns; the largest proportions of uncertified deaths were registered in Leicester, Liverpool, Burnley, and Bradford.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined in the three preceding weeks from 21·4 to 17·1 per 1000, rose again to 19·4 during the week ending June 22nd, and exceeded by 3·2 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 16·0 in Paisley and 17·5 in Dundee to 24·0 in Perth and 24·3 in Greenock. The 560 deaths in these towns included 26 which were referred to diarrhœa, 20 to whooping-cough, 14 to measles, 7 to scarlet fever, 4 to diphtheria, 4 to "fever," and 1 to small-pox. In all, 76 deaths resulted from these principal zymotic diseases, against 57 and 58 in the two preceding weeks. These 76 deaths were equal to an annual rate of 2·6 per 1000, which was 0·6 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 25 in each of the two preceding weeks, were 26 last week, of which 14 occurred in Glasgow and 4 in Dundee. The fatal cases of whooping-cough, which had been 11 and 12 in the two preceding weeks, further rose to 20 last week, and included 14 in Glasgow. The 14 deaths referred to measles corresponded with the number recorded in the preceding week; 4 occurred in Glasgow and 4 in Greenock. The fatal cases of scarlet fever, which had been 4 and 3 in the two preceding weeks, rose again to 7 last week, and included 4 in Glasgow and 2 in Edinburgh. The 4 deaths referred to diphtheria showed a slight further increase upon those recorded in recent weeks; 2 occurred in Glasgow and 2 in Edinburgh. The fatal case of small-pox was registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 112 and 87 in the two preceding weeks, rose again to 94 last week, and exceeded by 28 the number in the corresponding week of last year. The causes of 41, or more than 7 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 22·1 and 23·1 per 1000 in the two preceding weeks, declined again to 20·1 during the week ending June 22nd. During the past twelve weeks of the current quarter the death-rate in the city has averaged 27·7 per 1000, the rate during the same period being 16·7 in London and 18·9 in Edinburgh. The 135 deaths registered in Dublin during the week under notice showed a decline of 20 from the number in the previous week, and included 16 which were referred to the principal zymotic diseases, against 11 and 8 in the two preceding weeks; of these, 6 resulted from small-pox, 3 from scarlet fever, 3 from diarrhœa, 1 from measles, 1 from diphtheria, 1 from whooping-cough, and 1 from "fever." These 16 deaths were equal to an annual rate of 2·4 per 1000, the zymotic death-rate during the same period being 2·2 in London and 1·9 in Edinburgh. The 6 fatal cases of small-pox registered in Dublin last week exceeded the number in any week since February last. The mortality from whooping-cough and from "fever" showed a decline from that recorded in recent weeks, while the 3 fatal cases of scarlet fever exceeded the number in any week since September last. The death referred to measles was the first recorded within the city during the current year. The 135 deaths registered in Dublin last week included 26 of infants under one year of age, and 29 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons exceeded the numbers in the preceding week. Seven inquest cases and 6 deaths from violence were registered; and 50, or more than a third, of the deaths occurred in public institutions. The causes of 11, or more than 8 per cent., of the deaths in the city last week were not certified.

THE REPORT OF THE REGISTRAR-GENERAL FOR ONTARIO FOR 1893.

The report of the births, deaths, and marriages in the province for the year ending Dec. 31st, 1893, furnishes the usual amount of interesting statistics. The following are taken therefrom as showing the effect of these three factors upon our population. The following summary will show the increase and decrease of population by municipalities for the ten years from 1882 to 1892.

TOWNSHIPS.

Increase in ten counties	29,672
Decrease in thirty counties	92,197
Total decrease	62,427

TOWNS AND VILLAGES.	
Increase in thirty-two counties	114,962
Decrease in seven counties	5,089
Total increase	109,873
CITIES.	
Increase in eleven cities	126,788
Decrease in one city	462
Total increase	126,326

That a decrease should have occurred in the rural districts of the province is a fact calling for serious attention on the part of the authorities. A total decrease of 62,000 in a rural population of 1,120,000 in 1882 does not speak well for a young country like Canada, and this to occur in the most populous province, where the pursuit of agriculture in some form or another is essential to our development and material progress, would seem to indicate a condition of affairs worthy of more than passing notice. It would seem that population in this new world is following the example set in the old—viz., a tendency to concentration of population in villages, towns, and cities, a fact with us greatly to be deplored. The birth-rate per 1000 is 19·8, the same as in 1892. The ratio of males to females is 1065 to 1000, the ratio being a slightly increasing one. The total number of deaths for the year was 22,903, being a death-rate of 10·6 per 1000. In this connexion the report adds: "While its urban populations have notably increased during the decade, it has been in only a few instances that this growth has been too fast for the ability of municipal authority to deal with the sanitary problems developed by their new conditions." The increase of deaths has been great in the class "developmental diseases," then following those classed as "local diseases;" whilst the classes zymotic and constitutional show a decrease. Amongst individual diseases the decrease in the cities is marked in diphtheria, being from 0·87 per 1000 in 1892 to 0·60 in 1893. I notice that the rate, too, in influenza has fallen from 0·50 in 1892 to 0·30 per 1000 in 1893, whilst phthisis shows the same rate—1·8 per 1000.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-CAPTAIN MICHAEL THOMAS YARR, F.R.C.S., is seconded for service under the Siamese Government.

INDIA AND THE INDIAN MEDICAL SERVICES.

The Queen has approved of the following promotions among the officers of the Staff Corps and Indian Medical Service made by the Government of India:—*Bengal Medical Establishment:* To be Surgeon-Major-General: Surgeon-Colonel Robert Harvey, M.D., D.S.O. Surgeon-Majors to be Surgeon-Lieutenant-Colonels: George Speirs Alexander Ranking, M.D.; Robert Davidson Murray; Dennis Wood Deane Comins; Patrick Fenelon O'Connor; James Moran, M.D.; William Allason Simmonds; Roderick Macrae; Thomas Elwood Lindesay Bate; Shibram Borah. To be Surgeon-Major: Surgeon-Captain Granville Jameson. *Madras Medical Establishment:* To be Surgeon-Major-General: Surgeon-Colonel Charles Edwin McVittie. Her Majesty has also approved of the retirement from the service of Surgeon-Colonel Jesse Griggs Pilcher, Bengal Medical Establishment. The services of Surgeon-Captain H. E. Drake-Brockman, F.R.C.S. (Bengal), are replaced at the disposal of the Government of the North-West Provinces and Oudh. The services of Surgeon-Captain H. B. Melville are placed at the disposal of the Government of India in the Home Department. Surgeon-Captain H. W. Elphick, Officiating Civil Surgeon, is appointed to be Civil Surgeon, 2nd class, with grade station Sharampur, vice Surgeon-Major P. J. Freyer, promoted, and to continue to officiate as Superintendent, Central Prison, Allahabad.

NAVAL MEDICAL SERVICE.

Fleet-Surgeon Henry Charles Woods, M.D., has been promoted to the rank of Deputy Inspector-General of Hospitals and Fleets in Her Majesty's Fleet.

Surgeon R. T. Gilmour is appointed to the *Tamar*.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major Henry F. Holland, M.D., to be Surgeon-Lieutenant-Colonel.

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion the Royal Sussex Regiment: Charles John Jacomb-Hood, Gent., to be Surgeon-Lieutenant. 2nd Volunteer Battalion the Oxfordshire Light Infantry: Charles Dorrington Batt, M.B., to be Surgeon-Lieutenant. 1st (Inverness-shire Highland) Volunteer Battalion the Queen's Own Cameron Highlanders: Surgeon-Lieutenant A. C. Miller, M.D., to be Surgeon-Captain.

ENTRANCE EXAMINATIONS TO THE ARMY.

We are living in very stirring times as regards the organisation and administration of the army. The retirement of the Duke of Cambridge from the post of Commander-in-chief, which he has held for nearly forty years, and the introduction of a new *régime* mainly based on the recommendations of the Hartington Commission are, it is needless to say, measures of a very radical and important character which will probably more or less affect all branches of the service. Among the minor reforms in contemplation are the changes about to take place in the entry examinations for the Royal Military Academy, Woolwich, and the Royal Military College, Sandhurst. The regulations for the medical examination of candidates are understood to be undergoing complete revision and will affect the programme of examination. The War Minister has promised that due and sufficient notice shall be given of these. As regards the character of the literary and scientific examination of candidates the changes will mainly affect the entrance examination for Woolwich. Latin is to be voluntary, chemistry and heat obligatory subjects, and higher mathematics will be divided into two branches and include the calculus, while the number of marks given for colloquial knowledge of French and German will be increased. As regards the examination for Sandhurst, the only change proposed is to increase the number of marks given for a colloquial knowledge of modern languages. These changes will not be regarded in a favourable light by the headmasters of our public schools, but we nevertheless think they are wise. We hold that a course of study and an examination should be adjusted to the end in view. Classics have hitherto usurped such an exclusive and dominating position in this country that they are to some men like counters placed before the eyes, blotting out everything else from view. A good physique, integrity of the sense organs, and perfect health are the necessary physical qualities for a soldier, and a knowledge of mathematics, modern languages, and modern science is nowadays an essential qualification for an officer. The knowledge of Greek and Latin acquired at school by a candidate for the army is, after all, not very considerable. To obtain a grasp of them is hard, and to hold on to them is still harder. An acquaintance with French and German is essential to officers in the present day, and the requirements and pleasures of daily life and Continental travel afford inducements and opportunities for keeping them up. Military education has greatly developed and is still developing, and for the two scientific corps of the service specially trained at Woolwich a sound education in physical science is absolutely necessary to the proper fulfilment of the officers' military duties. A training in these subjects develops the powers of observation and those of the understanding alike. We think that probably just as many boys intended for Woolwich will go to public schools for their education as hitherto and learn Latin there; however, they will not devote the same amount of time to its acquisition, but more to modern languages and science.

THE FRENCH EXPEDITION TO MADAGASCAR.

It looks very much as if the French military expedition to Madagascar would suffer far more from the diseases incidental to a campaign in that country than from the military obstacles and opposition they will encounter there. The sanitary condition of the French troops at Tamatave is described as very unsatisfactory. Out of some 800 men composing the garrison not more than 200 are in good health, according to a special correspondent of the *Standard*. More than twenty soldiers had died from fever in the four weeks ending May 17th, when the mail left. The number of men falling out during the marches of the French troops is large, and the daily increase of sick in the force has subjected the hospital service to a great strain. At Majunga the field hospitals and ambulances are said to be crowded. A troop transport service has been organised for the regular conveyance of the sick from Madagascar to France. It is understood that General Duchesne has sent a dispatch to the French War Minister in which, although he

states the military situation is good, he has demanded many additions to the expeditionary force in the way of administrative officers, nurses, sappers, and workmen, with the view of facilitating the transport of provisions and war material.

CHANGES AT THE WAR OFFICE.

Notwithstanding the apparently general desire that Mr. Chamberlain should be the new Minister for War in the Salisbury Government it seems that his predilections in favour of the Colonies have prevailed, and Mr. Chamberlain has been nominated as Secretary for the Colonies. This appointment will give him an opportunity for developing his policy in regard to our Colonial possessions and probably afford him sufficient leisure for taking an active part in the debates of the House of Commons. Sir Arthur Haliburton, K.C.B., has been appointed Permanent Under Secretary for War in succession to Sir Ralph Thompson, whose departure from the War Office will be unanimously regretted. Sir Ralph Thompson rendered a most important service to the Army Medical Department as a member of a committee at the time the late Sir William Muir was Director-General in helping to obtain for that service the Royal Warrant of that date. Mr. George Lawson, C.B., becomes Assistant Under Secretary in place of Sir Arthur Haliburton. Sir Ralph Knox will be Assistant Financial Secretary as well as Accountant-General.

THE CHITRAL EXPEDITION.

Surgeon-Colonel T. Maunsell, the principal medical officer of the Chitral force, had, according to the latest accounts, proceeded to Chitral. The troops continue to be healthy and to be free from any epidemic disease, but there has been an increase of sickness in General Low's force, owing probably to the great heat in the Swat and Panjkora and Bajour Valleys. According to the *Pioneer Mail*, Surgeon-Captain Whitchurch arrived at Gilgit from Chitral on May 28th in charge of Captain Colin Campbell and a convoy of sick and wounded. He left Chitral with twenty-four sick and sixty convalescents, but on arrival at Gilgit had only four sick, the remainder being convalescent. The wounded, with two exceptions, who are fast recovering, are quite well. Captain Campbell's knee has quite healed, all inflammatory symptoms have subsided, there is but very little deformity and a good amount of movement, and he is able to walk and ride.

SURGEON LEA, R.N.

The *Broad Arrow* states, with reference to "the extraordinary circumstances attending the court-martial held at Sydney for the trial of Surgeon Lea, R.N.," who was charged with insubordination towards the captain of the *Ringarooma*, and was dismissed from the service, "the case is clearly one that necessitates most careful inquiry by the law officers of the Admiralty, and it is probable that the public will hear more of Surgeon Lea. Mr. Henniker-Heaton, M.P., asked a question on the subject on Tuesday, and was assured that the minutes of the trial were being examined at Whitehall. A report is gaining ground at the naval ports that there has been a failure of justice in this peculiar case; but we repeat that it is necessary to suspend judgment for the present. The minutes of the trial only reached the Admiralty on Tuesday last, and on that ground Mr. Henniker-Heaton consented to postpone his question."

INDIAN MEDICAL SERVICE.

An examination for sixteen appointments to Her Majesty's Indian Medical Service will be held in London on Aug. 2nd, 1895, and following days. Copies of the regulations for the examination, with information regarding the pay and retiring allowances, &c., of Indian medical officers, may be obtained from the Military Secretary, India Office, London, S.W., to whom the necessary certificates must be sent so as to reach him not later than July 19th next.

THE INSTRUCTION OF OFFICERS OF THE AMERICAN ARMY IN HYGIENE AND FIRST AID TO WOUNDED.

The annual report of the Board of Visitors to the United States Military Academy at West Point contains, according to the *Army and Navy Gazette*, a recommendation for the establishment of a chair of anatomy, physiology, and hygiene, and first aid to injured, at West Point, to be filled by a senior surgeon, who is to deliver a course of lectures and demonstrations on these subjects.

Correspondence.

"Audi alteram partem."

"THE MIDWIVES REGISTRATION BILL."

To the Editors of THE LANCET.

SIRS,—Though the political events of the past few days have made it highly improbable that anything more will be heard of the Midwives Bill during the present Parliamentary session, I trust you will allow me to reply to the important letter in THE LANCET of last week from the Master of the Rotunda Hospital. Dr. Smyly is in favour of the main objects that the promoters of the Bill had in view—namely, the proper training and registration of midwives,—so that his objections are those not of an opponent, but of a friendly critic. He first of all finds fault with the words "without the direct supervision of a medical practitioner." Midwives in this country, however, do attend cases without direct supervision. The aim of legislation is not to make such attendance illegal, but (1) to restrict it to cases of natural labour, and (2) to ensure that the midwife is competent—i.e., that she is capable of managing a case of natural labour, and (what is of equal importance) of recognising complications and abnormal conditions so as to know when a medical man should be sent for. The more highly a midwife is trained, the more ready will she be, in my opinion, to seek assistance in case of difficulty. Dr. Smyly is surely mistaken when he says that many midwives depart on the arrival of the medical practitioner. I, at least, have never heard of such an occurrence. It is the aim of the supporters of the Bill to promote coöperation and not antagonism between the midwife and the medical practitioner. There seems to me no reason to fear that it would fail to have the intended effect. At the same time, any alteration in phraseology that can be shown to tend to more harmonious working would be readily accepted.

Dr. Smyly's second objection is that the Bill does not sufficiently provide against midwives undertaking cases other than normal. In the Bill, "as amended on report" and reprinted on June 20th, any doubt upon this point is set at rest by the following paragraph (Section 5 of Clause 12, referring to removal of name from register): "For the purposes of this section professional misconduct shall, in addition to any other form of misconduct, include any omission to send for a medical practitioner where the case is not one of natural labour." The third objection is the centralisation of all authority in London. In the scheme upon which the Bill was based it was suggested that the carrying out of the provisions of the Bill should be entrusted to local midwives boards established in every centre where it is decided to conduct examinations; that these local boards should consist of the examiners; and that the central board should consist principally of members of the various local boards. It would have loaded the Bill with detail to have included in it all these suggestions, but there is nothing in it to prevent their ultimate adoption or, at any rate, to prevent the adoption of the principle of decentralisation on which they were founded and of which the supporters of the Bill are strongly in favour. The last objection is that the provisions of the Bill do not extend to Ireland. The promoters were certainly not aware that Ireland desired to be included. They will put no difficulty in the way if the Irish really desire to be brought within the scope of the measure. I trust Dr. Smyly will see that his objections are not of an insurmountable kind, and that they are scarcely such as to render necessary his opposition to the Bill as a whole. Some of them are due to misapprehension, and the rest can be most suitably dealt with by friendly conference.

I am, Sirs, yours truly,

CHAS. J. CULLINGWORTH.

Brook-street, W., June 26th, 1895.

To the Editors of THE LANCET.

SIRS,—In your issue of the present date you publish a letter from Dr. Smyly, Master of the Rotunda, which indicates that he has fallen into some errors in respect to the Bill. He regards the definition of the term "midwife" as given therein as indicating the intentions of the Midwives Institute to obtain for midwives entire freedom from supervision by medical men. As a matter of fact, the definition

was drawn up at the first meeting of the Provisional Committee which preceded and led up to the formation of the Midwives Registration Association, and it was adopted at the first general meeting of the association, on July 3rd, 1893, as a part of its working basis. No midwife had any hand in it. Dr. Smyly, as a member of the Midwives Registration Association, should be aware of these facts. The definition *was* and *is* intended to define the present status of a midwife, the object of the Bill being to place midwives under the formal control they so greatly require, not to free them from that which, indeed, does not exist. In the Bill "as amended on report" the definition has been omitted. Dr. Smyly's objection that the Bill does not sufficiently provide against midwives treating cases which are not normal, is due to a misreading of the Bill. In the amended measure a special clause prevents any further misconception on this matter, as it specially makes it a form of professional misconduct to omit to send for a medical practitioner in abnormal cases. He complains that the authority under the Bill is centralised in London, but this town is only mentioned once in the Bill, in connexion with the Royal College of Physicians of London, and it was certainly not intended to centralise all authority in that town, as it would make the Bill unworkable. If he will refer to his copy of the "Suggested Scheme" of the Midwives Registration Association he will see that provincial rights were then carefully considered, but it is, of course, impossible to put any but general expressions and powers in a Bill of this nature. The wording of the clause which names the authorities who nominate the members of the central board was suggested by the President of the General Medical Council. As to Rotunda midwives being prevented from practising in England and Wales, Dr. Smyly is wrong in two respects: any woman can practise in either country after the passing of the Bill just as she can now; and while it is especially provided that the conducting of the examinations should be in the hands of the central board, so that a minimum standard should be made obligatory, it is evident that Irish or any other midwives who had passed a higher standard than that required by the board would be admitted to the Register. At the worst it would but be for the midwives who had been trained in Ireland to pass their examination in England, as is so often done by medical students. Perhaps Dr. Smyly would kindly state exactly the amendments he would like to see in the Bill (and give a definition of "midwife"), and I will take care that they come forward for discussion and will guarantee a fair and full hearing.

I am, Sirs, yours faithfully,

F. ROWLAND HUMPHREYS.

Fellows-road, N.W., June 22nd, 1895.

To the Editors of THE LANCET.

SIRS,—The article by Dr. Boxall and Mr. Humphreys' letter will, I think, afford some food for reflection. There can be little doubt of the truth of the conclusions drawn by Dr. Boxall as to the nature of the disease from which his patients suffered, but I wish to refer to the fact that it is very much more difficult to arrive at correct conclusions in private practice, where all the conditions are not so much under the control of the medical man as they are in hospital. It has, on more than one occasion in my own practice, been a matter of extreme difficulty to worry out the facts necessary to be obtained before coming to any conclusion, and it seems to me to be unsound policy to encourage uneducated practice when the difficulties to be overcome are quite great enough already. Look at the difficulties in the path of the medical man summoned by a midwife to such cases as described by Dr. Boxall, and probably not until there was mischief in the region of the pudendum, and consider how much injustice might be done to the midwife and perhaps, also, to the patient. Mr. Humphreys' letter also goes to show that this insane legislation has been forced upon the country by those who have never even taken the pains to arrive at the facts connected with the question. I will just state the fact that the guardians have nothing whatever to do with providing nursing assistance to the out-door poor; they can admit a parturient woman to the infirmary for her confinement, and they can give an order for medical attention in case there is any difficulty connected with delivery occurring in people outside the infirmary. The relieving officer, however, can require the person to whom the order is given to pay, by weekly instalments, either the whole or a portion of the fee for attendance if he knows that there is sufficient money coming into the family to justify his action. Mr. Humphreys, too, shows his ignorance, not only of the work done by the district and county councils, but also of the way in which they do it. The proposal I have made does not imply the wholesale pauperisation of the districts reported upon. Payment would be made in proper cases commensurate with the money earned by the family. With some experience I can assert that it is not the Poor-law which is pauperising the country, but it is the abuse of the hospital system and wholesale indiscriminate dole-giving. The reason the Poor-law is unpopular is because it is the duty of the relieving officer to ascertain the position of the people to whom relief, either medical or other, is given; and, given a good relieving officer, and many such are to be found throughout the country, with good local knowledge, the system works excellently well. It is a fact that no Continental country has a system of relief in any way comparable to our own for efficiency.

I am, Sirs, yours obediently,

Hatfield, Herts, June 23rd, 1895. LOVELL DRAGE, M.D. Oxon.

To the Editors of THE LANCET.

SIRS,—At the annual meeting of the Lancashire and Cheshire Branch of the British Medical Association, held in Liverpool on the 19th inst., a member asked "for information regarding the 'protest' forwarded to the General Medical Council by certain persons assuming to represent a number of the members of this branch." The "protest" was sent in on the occasion of the committee of the branch petitioning and sending a deputation to the General Medical Council in May last. Information was requested under three headings: 1. Whether authority had been obtained to use the signatures appended to a "protest" in June, 1894, and in which it is stated, "As there is no Bill at present in existence, a fact which was again and again impressed upon witnesses by the select committee, it is impossible to tell what statutory penalties may be provided for cases in which the limits of practice shall have been exceeded," in order to promote the present Midwives Bill by damaging the effect or weight of the petition and deputation of the branch. 2. The signature of a member of the General Medical Council was appended to a document forwarded to that body in order to influence its action. The signatures of two of the members of the deputation against registration to the General Medical Council were appended to the document, thus making these gentlemen protest against their own action. 3. The person forwarding the "protest" says in his letter to the General Medical Council, "the deputation would not represent the branch officially." The statement had also been made that the petition was not an official one, and that the committee does not represent the branch.

Dr. James Barr hereupon explained to the meeting that the petition of, and deputation from, the branch *were* "official and represented the branch," and quoted from his minutes of March 9th and May 11th, 1894, in support of his statement. One of the members of the deputation alluded to now rose and formally complained that his name had been placed on this list of "protestators" without his knowledge or consent. Dr. W. Macfie Campbell then stated in explanation of Question No. 1: "That the signatures had been obtained by means of reply postcards twelve months ago, and that he had not deemed it necessary to again circularise the members on the subject." "In reply to Question No. 2, all he had to say was that if Dr. Leech chose to sign the protest it was his own affair, and that he (Dr. Macfie Campbell) was not going to prevent him." But Dr. Macfie Campbell had not even a lame explanation to offer the meeting as to how the name of a member of the deputation came to figure on his "protest list."

I am, Sirs, yours faithfully,

H. HORBURY PRESTON,

Assistant Hon. Sec., Lancashire and Cheshire Branch Committee of British Medical Association.

Pendleton, June 22nd, 1895.

THE MISUSE OF HOSPITALS.

To the Editors of THE LANCET.

SIRS,—One would fain believe that the numerous preachers whose pulpit utterances on Hospital Sunday were to the

effect that nearly half of the people of London sought (and obtained) medical and surgical aid at some one or other of the metropolitan hospitals and dispensaries in a single year had made a considerable call upon their imaginations; but there was a remarkable unanimity amongst them, and the higher critics would have no difficulty in tracing their accounts to a single source — namely, *The Hospital Sunday Supplement*. To this are appended tables for 1894 which, although St. Bartholomew's and St. Thomas's Hospitals and one or two other places are excluded, make it appear that *1,383 634 distinct patients were treated* in that year at those institutions whose names are given. In the earlier part of the document, which refers to 1893, special mention is made that one out of every two men was treated thus in London, but in this case the endowed hospitals are included. And we are to believe this, knowing all the time that the pauper population is otherwise provided for, that our soldiers and policemen have their own staffs of medical men &c., and that many other bodies are similarly situated. These rarely figure in our hospital returns. Of course, one cause (easy to detect) of the apparent exaggeration is the author's restriction to London of the population from which the patients are drawn. But the great majority come from this restricted area, and the only other explanation at all feasible is that in many instances the daily returns of out-patients were added together for the year.

There is no doubt, however, that throughout England there has been a growing tendency on the part of the population to betake itself to hospitals in case of sickness or injury. There is an instructive passage in the Registrar-General's Census Report for 1891, vol. iv., p. 77: "The patients enumerated in hospitals were 7619 in 1851, 10 414 in 1861, 19 585 in 1871, 24,087 in 1881, and 27,579 in 1891. The proportion of these patients to 100,000 of the population was 42 in 1851, 52 in 1861, 86 in 1871, 93 in 1881, and finally 95 in 1891. It must not be supposed that this continuous increase implies a corresponding increase of sickness. The proportion of hospital patients to population is a measure rather of the amount of hospital accommodation than of the amount of sickness." In fact, hospital accommodation is at present (and will be for some time to come) quite equal to the needs of those who are the proper recipients of it. But its recent enormous extension has had a pauperising effect upon the community, and in these days many obtain aid at hospitals who ought to be heartily ashamed of so doing.

I am, Sirs, yours faithfully,

Kingston-on-Thames, June 25th, 1895. D. BIDDLE.

*** Mr. Biddle refers to the supplement issued by a contemporary. THE LANCET Hospital Sunday Fund Supplement (June 8th, 1895) shows in a statistical table of the hospital work in London during the year 1894 that 1,565,978 out-patients paid visits to twenty-seven "general hospitals" (using the term as employed by the Council of the Metropolitan Hospital Sunday Fund). A further number of visits—118,470—to cover possible omissions were estimated to have taken place, making in all 1,684,448. It is distinctly stated in a note to this table, with a view to obviating a source of serious error, that "*the figures referring to out-patients in these tables represent the number of* VISITS *paid by out-patients—not the* NUMBER *of out-patients.*"—ED. L.

THE "INDEX MEDICUS."

To the Editors of THE LANCET.

SIRS,—Mr. George S. Davis, the enterprising enthusiast who, since January, 1885, has at very heavy loss maintained that most valuable aid to all working medical men, the "Index Medicus," announces that he does not see his way any longer to continue losing 2000 dollars a year for the sake of the profession. It will be remembered by many that in 1893 Mr. Davies intimated that unless more subscriptions came in he would be obliged to discontinue the publication; and it was hoped that the many members of the profession in this country who have obtained invaluable help from the Index would have felt it their duty as well as their interest to have subscribed liberally enough to have enabled Mr. Davis to persevere with his great public service. This hope has not been realised. The Index has become absolutely indispensable, and the loss of it means that in reference-hunting we shall have to remember twenty or thirty different sources of information and search through all of them, instead of, as hitherto, finding everything in the clearly printed pages of the monthly Index.

I have written to Dr. Billings, whose marvellous power for organising Index work is well known, urging him to take steps to have the Index carried on on a non-commercial footing, and to endeavour to obtain subscriptions from scientific societies and scientific workers for its maintenance; and I should be glad to know what measure of support might be expected in this country for such a scheme. If £400 a year could be guaranteed from this country the Index could be continued; and I think it will be a shame to English medicine, which has derived so much benefit for the last fifteen years from this great American enterprise, if such a small sum should not be forthcoming. Every medical society should regard it as a duty to subscribe at least two guineas to maintain the Index, and the rest should be easily made up by the subscriptions of medical men who would be glad to have this important aid at their elbow. I should be grateful to hear from those willing to support the Index by an annual subscription, and will forward their offers to Dr. Billings, who, I feel sure, will not allow the Index to be lost without a struggle.—I am, Sirs, very faithfully yours,

J. Y. W. MACALISTER,

Resident Librarian of the Royal Medical and Chirurgical Society. Hanover-square, W., June 25th, 1895.

"DEFECTS OF VISION AND ACCIDENTS."

To the Editors of THE LANCET.

SIRS,—The able letter of your Indian correspondent, Mr. J. Stuart Brooke, is interesting and timely, and it is to be hoped will receive the attention here it merits. The detection of the man with the artificial eye on board of the Cunarder in the early seventies led to the examination of all men detailed for look-out duty with reference to short sight, colour and night blindness; and I know that to-day, in the same service across the Atlantic, this testing is still continued with the addition of taking notice of the competency of hearing, a keen sense of which is most important in fog. There is no railroad track across the ocean, hence the more need that these floating villages should have sentinels wide-awake and effective. It may seem somewhat a large order to say that the only uniform and practical remedy for the prevention of these disasters at sea consists in the appointment under the President of the Board of Trade of a principal medical adviser. This official, who should be a man of practical knowledge and of administrative ability, would relieve the President of all technical work and guarantee to the public that, so far as he was concerned, efficiency was the rule of the road afloat as well as ashore. Nor would his office end here. He would be the recipient of the medical logs of the different steamers. Here facts could be sifted and tabulated, to the utilisation of the field of marine hygiene that has long lain waste; and, *per contra*, the fads and fancies of enthusiasts with regard to medical matters at sea, remedies, and what not would receive their just estimate and be utilised for what they were worth. Some of your readers will recognise the necessity of these remarks. Sirs, it is needless to trouble your space further than to say simply that the public and the profession look to you that the suggestions of the expert deputations of Feb. 1st last will not pass away without some practical results.

I am, Sirs, yours faithfully,

Sussex-place, Southampton, June 24th, 1895. R. A. CALDWELL.

"RAPID DILATATION OF THE UTERUS."

To the Editors of THE LANCET.

SIRS,—In his Note on Some Aids to Rapid Dilatation of the Uterus Dr. Amand Routh recommends, in certain cases, the preliminary use of a glycerine tampon. It may be interesting to some of your readers to hear that during the last two years I have found the use of a glycerine tampon very serviceable in midwifery practice when the pains are inefficient, the vagina "dry," or the cervix "rigid." It seems to me that such a tampon is needed in cases in which it has been thought necessary to use an astringent antiseptic before delivery, and it is much more convenient than lard &c.

Two ounces of glycerine containing one drachm of borax and one drachm of boracic acid are easily carried, with sufficient perchloride wool to make a few tampons; and I believe it is worth its place in any midwifery bag. It usually acts in half an hour or less.

I am, Sirs, yours truly,

Conisborough, June 22nd, 1895. ROBERT CRAIK.

"EPSOM COLLEGE."

To the Editors of THE LANCET.

SIRS,—May I, as an old Epsomian, be allowed to protest against the frequency of the appearance in your columns of the title "Royal Medical Benevolent College" with reference to the above public school? A few weeks ago in a leading article in the *Standard* it appeared that "the Royal Medical Benevolent College was not one of the best-known public schools," and the writer goes on to suggest that this may partly be accounted for by the use of the above-named title. It altogether deceives the general public with regard to the main object of the College—that of giving a good general education to all irrespectively of class distinctions. That it does refer to the system whereby a bare 20 per cent. of the scholars receive a free education no one will venture to deny, but that it should have the power to conceal from the public the fact that 80 per cent. of the scholars are treated and educated identically as at any other public school seems a pity—not to say a mistake. Further, I believe that the title no longer *legally* exists. A little more than a year ago the title (which for the school in its early days was well suited, but for which in its present circumstances it is entirely unfit) was annulled by Act of Parliament. It is, in fact, the old cry, *Tempora mutantur, nos et mutamur in illis.*

Amongst the other public schools we have ranked as Epsom College for many years, and it is this title which will always appeal most lovingly to her sons, both past and present, and whose honour it will be their care to uphold. Some twenty years ago an old boy of distinction, in a long letter to the school magazine, pointed out the harm that was likely to arise from the retention of the old misleading title, and urged the then present members to do their utmost to secure the sole recognition of the other title, "Epsom College." As far as the school itself is concerned their efforts have been crowned with success, but unless we are able to enlist THE LANCET on our side (and after that the daily papers are bound to follow) that success, we fear, must to a great extent be stultified. It is with no desire to belittle or decry the charitable work which the school so magnificently performs that this letter has been written, but rather that it may be further aided in its work by being known in its true colours. There is a strong feeling in the school on this point, and therefore I trust that this letter may not be considered as encroaching too much upon your available space. I am, Sirs, yours faithfully,

June 25th, 1895. O. E.

*** The council of the Royal Medical Benevolent College at Epsom are, we know, more than willing to omit the word "benevolent" from the title of the College; but as long as they are compelled to solicit subscriptions and donations to carry on the benevolent side of their work, so long must the epithet remain. The points our correspondent raises are all well appreciated by the governing body, and they have obtained powers under their new Act to alter the name *when they are in a position to do so;* but at present the correct designation of "Epsom College" is the one to which our correspondent takes exception. We, like the council of the College, are sincerely desirous of seeing the necessity for the epithet removed and jealous for the position of the school as one of the great schools of England, so that we are happy to print our correspondent's views.—ED. L.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Extension of the Royal Infirmary.

THIS question is still under discussion. In March last a special or grand committee was formed composed of an equal number of members of the board and of trustees who were not members. Several meetings have been held, and the last, at which there was a full attendance, occurred on the 17th inst. A long discussion took place on the proposals for rebuilding on the present site, for altering and enlarging the present building, and for the erection of a new hospital in the suburbs. As to adapting the present building, it was pointed out that considerable space is devoted to the nurses, who, about 100 in number, live and sleep on the premises. It was urged that if they were accommodated outside, this space would be gained and it would be better for the nurses. Another suggestion was that the washing might be done outside and the space now occupied by the laundry be utilised for patients. It was also recommended that the out-patient department should be removed to premises to be taken for the purpose near at hand. All these suggestions have been before the board at various times since 1890. They were received with some favour, but doubts were expressed as to whether they would, if carried out, meet the requirements of the case. In the end, on the motion of Sir W. Houldsworth, M.P., a subcommittee was appointed to take these proposals and all the other schemes for achieving the object in view into consideration and report to the general committee. It is said that the subcommittee "will thrash out all the details, and it is hoped that when they present their report the general committee may be able to come to a unanimous decision." The difficulty is to increase the accommodation of the infirmary without further encroachment on the open space in which it stands, but it can no doubt be done if the present building is pulled down—which is the best thing to do—and the nurses, the out-patient department, and the laundry are taken outside the infirmary grounds. It would be a great pity to patch up and attempt to modernise the present building, and would only lead to disappointment.

Death of Professor W. C. Williamson, M.R.C.S., LL.D., F.R.S.

Professor Williamson's death, which took place recently at Clapham Common, will be regretted by many here as well as by a large circle of scientific friends. Though his association with Manchester was much broken when he gave up active work at Owens College in 1892—receiving on his retirement the title of Emeritus Professor of Botany—he may be claimed as one of those who by their scientific eminence have shed lustre on this city of manufacturers. His father had for many years been greatly interested in zoology, botany, and geology, and in 1838, when young Williamson was about two-and-twenty, became curator of the Scarborough Museum. In his own home, therefore, as it has been said, he "breathed an atmosphere of scientific research." He was apprenticed to a medical man in his native town and began the study of medicine, but kept up his geological pursuits, as shown by three early memoirs on "The Vertical Distribution of the Organic Remains of the Yorkshire Coast." In 1835 he became the curator of the Manchester Natural History Museum, but must have continued his medical work, since his qualifications of M.R.C.S. Eng. and L.S.A. date from 1840. He was long known in Manchester as a general practitioner, though never giving up his scientific pursuits, and devoted special attention to diseases of the ear, which he had studied on the Continent. The Manchester Ear Institution owes its origin to his energy and enthusiasm, and for ten years he was an active member of the staff. On the foundation of Owens College Mr. Williamson was appointed its first Professor of Biology and Geology. Such a field of work was too much for any one man to cover, and first the teaching of geology, and then of zoology, fell into other hands, the former being now taught by Professor Boyd Dawkins and the latter by Professor Hickson, Mr. Williamson retaining the chair of Botany. Papers on the Scales and Bones of Fossil Fishes led to his election as a Fellow of the Royal Society, and a series of memoirs on the Carboniferous Plants of Lancashire and Yorkshire gained him the Royal Medal of the Society, whilst the Wollaston Gold Medal was awarded him by the Geological Society in 1890. He was specially skilled in the patient grinding of coal sections, so as to become beautifully transparent and instructive objects for the microscope. The University of Edinburgh conferred on him the degree of LL.D., and he was an honorary member of the Swedish Academy of Science, as well as of those of Göttingen and Geneva. He took an active interest in the Manchester Literary and Philosophical Society, and was President for the year 1884-5. After retiring to Clapham he began a new series of memoirs for the Royal Society in

conjunction with Dr. Scott, and continued his investigations in his favourite subject—the plants of the carboniferous strata. He was an ardent and enthusiastic student of science through his life of seventy-eight years, but his active mind was interested in many subjects—literary, archæological, and social; and it may be added that among his lighter pursuits he was a skilful and successful horticulturist.

Suicidal Poisoning by Carbolic Acid.

On Tuesday, the 18th inst., Mr. Sidney Smelt, the deputy coroner, held an inquest on the body of a man forty-six years of age, who was found dead in bed. It was evident that he had taken carbolic acid from a glass which was on the dressing-table, and which still contained a little of the acid. The deceased had been much troubled about some trust money, and had probably contemplated suicide for some time, for "when he heard of people committing suicide he had a way of saying that they were better off." The verdict was "Suicide while insane." Some people consider suicide a proof of insanity, but whatever view is taken of the mental condition, the fact is that this man, who contemplated suicide, had no difficulty in obtaining the poison. The *Manchester Courier* says: "It is noteworthy that during the last fortnight the deputy city coroner has held inquests on seven persons who had died from taking carbolic acid, and that there have been about twenty such suicides in the city during the present year." In the same paper for the 20th inst. is the report of a suicide in Warrington, where the druggist "deposed to deceased purchasing three pennyworth of carbolic acid for disinfecting purposes." These instances show how easily and cheaply a deadly irritant poison, one of the chief favourites with the suicidal, can be obtained by anyone. In one of the evening papers for the 21st inst. there is an additional inquest reported, with the heading "Supposed Suicide of a Young Woman—Carbolic Acid Again," where the cause of death was certified by the police surgeon as due to this poison. Another suicide (of a Manchester merchant) from the same poison took place recently in Sale, a residential suburb of Manchester, though just on the Cheshire side of the Mersey. It is surely desirable to place some restrictions on the sale of this poison, more frequently used for suicide than perhaps any other, presumably from its cheapness and the ease with which it is obtained. No doubt what is so common an occurrence in this district takes place frequently in most parts of the country, and if the figures could be obtained the total would be startling.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Tyneside Carnival.

THE rival attractions of the races and the Temperance Festival are this week in full operation in Newcastle-upon-Tyne. Formerly the races were held on the Town Moor, and were for many years looked forward to in the north of England as the holiday of the year. The pitmen came in thousands, with their wives and children, and enjoyed a picnic on the Moor the day the Plate (the Pitmen's Derby) was run for. The Moor was free to all, and the scene upon it during race week was thoroughly representative of North-country popular enjoyment. Now the races are held at Gosforth Park and the character of the gathering is altogether altered. It is racing pure and simple; the sporting publican element predominates, gate money is exacted, and the family holiday element of the humbler classes is altogether absent. The Moor now during race week is occupied by perhaps quite as many people as formerly, bent on pleasures of a character supposed to be less harmful than horse racing—military sports, foot races, kite-flying, shows (not always above suspicion), Aunt Sally, dancing in saloons, &c. Whatever view may be entertained as to the comparative merits of the amusements provided now by the Temperance Festival, and formerly by the races, every Newcastle man must rejoice that within easy access of the centre of the town there is such a splendid open space for the recreation of the people as the 1200 acres of moor afford.

The Milk-supply of Newcastle-upon-Tyne.

Dr. H. Armstrong, the medical officer of health for the city and county of Newcastle-upon-Tyne, has just issued a special report on the milk-supply of the city. Dr. Armstrong suggests that every cow proved or reasonably suspected to be suffering from tuberculosis on a dairy farm should be slaughtered, that all milk capable of spreading any infectious disease should be destroyed, and that sanitary authorities should have the power of controlling the sale of milk in their districts and to license sellers. The report, like all Dr. Armstrong's reports, is an exhaustive and valuable one.

Durham University.

At a Convocation of Durham University held on Tuesday, June 25th, the Sub-Warden (Rev. Dr. Pearce) presided, and announced that the new charter had been received, by which power is given to confer degrees on women in all faculties except divinity. The following degrees were conferred:—Hon. D.C.L., Sir John Stainer, Prebendary William Rogers (*in absentia*); Hon. D. Litt, John Bagnale Bury, Ingram Bywater, William John Courthope, Frank Byron Jevons, Frederick Geo. Kenyon; Hon. M.A., James Francis Hodgson. Then followed a large number of ordinary degrees, among them that of B.Sc., conferred on Miss Ella Mary Bryant, Durham College of Science, Newcastle-upon-Tyne.

Newcastle-upon-Tyne, June 26th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Glasgow Royal Infirmary.

DR. J. LINDSAY STEVEN and Dr. J. H. Pringle have been appointed physician and surgeon respectively to the infirmary. Dr. Steven's appointment renders vacant the position of pathologist to the hospital and curator of the museum.

Ashgrove Home for City Children.

This is a new institution, which is to be worked in connexion with the movement for giving to the children of the poor a summer holiday in the fresh air. This movement was inaugurated in 1885, and has now reached very wide limits, no less than 7000 children being sent out of Glasgow last year for a fortnight's residence at the coast or in the country. The children to be eligible for such a treat must be between the ages of five and fourteen, and careful inquiry is made into the circumstances of the parents in order to prevent the charity being abused. The new home is to be more especially used for the reception of weakly and delicate children, and the appointment of Dr. Alice L. Cumming as matron of the home will therefore be recognised as a peculiarly appropriate one. The building has been hitherto a private residence and has been adapted to its present purpose with comparatively little alteration. It stands in its own grounds, which extend to fully five acres. The home is the gift of two Glasgow ladies who desire that their names shall not be made public.

Inspector of Alkali Works in Scotland.

Mr. R. Forbes Carpenter, F.I.C., has been appointed by the Local Government Board and the Secretary for Scotland as chief inspector. Mr. Carpenter joined the staff in 1882, and has been in charge of the East Lancashire and Yorkshire district.

Aberdeen University.

The Duke of Richmond and Gordon, Chancellor of the University of Aberdeen, has appointed Mr. Alex. M. Gordon of Newton to be his assessor in the University Court in place of the late Mr. Ramsay of Barra and Straloch.—The committee appointed to make arrangements for the opening of the new Students' Union and the inauguration of the Graduation Halls have drawn up a programme of the proposed ceremonies. These are to extend from Tuesday, Oct. 22nd, to Friday, Oct. 25th. According to the programme the celebration will commence on the Tuesday with a grand reception by Dr. Mitchell from 8 to 11 P.M. in Marischal College. On the following day the inauguration of the Mitchell Tower will take place at 11 A.M by the new clock being allowed to strike for the first time, and Dr. Mitchell will then proceed to the Students' Union and formally hand it over to the students. He will be presented by the Students' Representative Council with an address thanking him for his magnificent gift, and then the ceremony of inaugurating the Graduation Hall will be performed by the Chancellor of the University, the Duke of Richmond and Gordon, who is expected to be present. The present upper

hall will be converted into the picture gallery of the university and will serve as the vestibule to the great Mitchell Hall. The Chancellor, standing in the picture gallery, will declare the Graduation Hall open, and the company of over 300 guests will then pass in to a luncheon given by Dr. Mitchell in the hall. On the following day the festivities will commence at noon by the presentation of the freedom of the city to Dr. Mitchell, and at one o'clock there will be a luncheon given by the Lord Provost. At four o'clock in the afternoon that day Lord Huntly will deliver his rectorial address in the new Graduation Hall, and the day's proceedings will be terminated by a grand torchlight procession in the evening. Friday, the last day of the celebrations, will be marked by the formal acknowledgment by the University of Dr. Mitchell's munificence. A gold medal will be struck and presented together with an address by the University Court to Dr. Mitchell, and medals in silver will probably be given to the principal guests. This presentation will take place at 11 A.M. on Friday and will be followed by the conferring of the honorary degrees of D.D. and LL.D. by the Chancellor of the University. There will be a service in King's College Chapel at three o'clock on the Friday afternoon.—The mason work of the Mitchell Tower was completed yesterday.

The Aberdeen City Fever Hospital: Action against the Town Council.

Some time ago a parent raised an action for damages against the town council for the death of his child in the City Hospital. The father alleged that the death was the result of unnecessary exposure of the child in removal to the hospital. The pursuer lost his case. Dr. Littlejohn, medical officer of health, Edinburgh, and Dr. Watt, senior assistant to the medical officer of health, Glasgow, were called as witnesses for the defence, and it is now reported that in consequence of the public importance of the question raised they asked for no fee for their appearance in court. The Bills and Laws Committee of the town council, however, are to send to each an honorarium of five guineas.

June 25th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Local Government Board Inquiry.

AN inquiry was held in Belfast by Mr. Agnew, Local Government Board inspector, on June 19th in reference to the death of a man which took place in the lunatic department of the Belfast workhouse on April 25th. This investigation arose through a communication forwarded to the Local Government Board by the city coroner. It appeared from the evidence that Dr. Barron, a dispensary medical officer, attended the man before his admission for congestion of the brain. It is stated on his certificate that the man was suffering from "aploplexy," but he was admitted to the workhouse. He did not consider he was a lunatic. When the man was brought on a car to the workhouse, on April 23rd, he was examined by two of the resident medical staff, Dr. Beatty and Dr. McLiesh, who came to the conclusion that he was suffering from epilepsy and deterioration of mind, and sent him to the epileptic ward, where he was in charge of Dr. Patrick as resident medical officer, who believed that the man was suffering from epilepsy, slight pleurisy and congestion of one lung, and bronchitis. He had no signs of congestion of the brain, but he did not consider him of sound mind. The real point at issue was whether epileptics could not be treated in a portion of the infirmary without sending them to the lunatic department. The evidence showed that a person with epileptic symptoms would be sent to the epileptic ward even though he was suffering from mental disorder. It is the duty of the resident officers, if they found a patient suffering from epilepsy, to send him to the epileptic ward, whether he is suffering from insanity or not. Mr. M'Connell, senior visiting medical officer of the workhouse, in his evidence, said he had come to the conclusion that there was no such thing in the workhouse as patients purely epileptic. There were people of unsound mind in the house, but they did not call them lunatics; only the Local Government Board would call them so. No person was called a lunatic by him until certified to be so, and then he was sent to the asylum. There was only one of the epileptics in the lunatic building now who at all approached insanity. The inquiry has concluded, but the result will not be known for some time yet.

Belfast Royal Hospital.

The Coulter Exhibition has been awarded to Mr. R. J. Johnston, and the Malcome prizes to Mr. Mc Cully (first) and Mr. McDave (second) at the Belfast Hospital for Sick Children. Mr. Beggs has gained the gold medal.

Bangor (co. Down) Water-supply.

I understand that an arrangement has been made between Lord Dufferin's agent and the Bangor Town Commissioners for supplementing the present water-supply from Clandeboye Lake, and that, as soon as the pipes are laid and the connexion made, the supplementary supply will be turned on.

Dispensary at Ballymoney.

The Ballymoney board of guardians have requested the Local Government Board to sanction the loan of a sum not exceeding £400, to defray the cost of providing a dispensary for Ballymoney Dispensary District.

Death under Chloroform in one of the Cork Hospitals.

A death under chloroform occurred in one of the Cork hospitals on June 19th. The patient had been suffering from empyema for a considerable time, and on two occasions within a fortnight prior to his death large quantities of pus had been removed by aspiration at his own home. Two days after admission to hospital he was put on the table for the purpose of procuring drainage by incision and removal of portion of a rib. The heart was pushed over very considerably to the right side and encroached on the right lung; the face was livid, and the case generally was regarded as a desperate one, in which all risks should be taken. When only partially under the anæsthetic, before a drachm had been administered, the heart ceased to beat and all efforts at resuscitation failed.

The Irish Queen's Colleges and the "65" Rule.

I have already informed you that the Treasury expressed a desire to hear the views of the presidents and professors of the three Queen's Colleges with regard to the desirability or otherwise of applying the "65" rule to the presidents and professors of the colleges. The Treasury appointed a committee consisting of Lord Playfair, Sir Mathew White Ridley, M.P., and Sir J. Moate (direct representative of the Treasury). The committee decided on taking the evidence of the presidents of Cork, Belfast, and Galway, and of one professor from each college. Professor Jack of Cork, Professor Purser of Belfast, and Professor Townsend of Galway were selected to represent their colleagues. At a meeting of the Cork professors, Professor Jack was instructed to inform the committee (1) that the professors disapprove of the application of the "65" rule to the colleges; (2) that if the Government insist on compulsorily retiring professors, though appointed for life in accordance with the statutes of the colleges, then the professors should be called upon to retire at sixty-five, unless the council of the college should certify that the professor is quite capable of discharging his duties, the certificate to be renewable every three years; and (3) that the professors of the faculty of medicine should be entitled to pensions. With regard to the latter recommendation, I may explain that the professors of medicine, surgery, midwifery, and materia medica are not entitled to pensions on the ground that they do not devote their whole time to the college, though for that very reason their salaries are much smaller than those of the arts professors. It seems cruel, then, that after devoting the best energies of their lives to the advancement of their college they should be turned adrift by the Government when failing health or advancing years compel them to vacate their chairs. The committee met in London last week and took the evidence of the three presidents in the absence of the professors, and the evidence of the professors in the absence of the presidents. As the recommendations of the committee will have much influence on the interests of higher education in Ireland they are looked forward to with considerable interest.

Cork Medical Officers' Indemnity Fund.

The following subscriptions have been received: Incorporated Medical Practitioners' Association, London, £5 5s.; South-Eastern Branch, British Medical Association, England, £10; Dundee and District Branch, meeting, £9 4s. 6d.; Worcestershire and Herefordshire Branch, British Medical Association, £5 5s.

June 25th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Consumption of Tobacco in France.

A NON-SMOKER like myself is a *rara avis* in this tobacco-loving community; no wonder, then, if the State exercises a monopoly of the sale of the fragrant and remunerative weed. The net profits accruing to the Government from the sale of tobacco during the last year attained the colossal dimensions of 366 539,875 fr. 46 c. The Nord is a long way ahead of all other departments in the smoking, chewing, and snuff-taking propensities of the inhabitants, each of whom consumes annually 2 kilogrammes 391 grammes. At the opposite end of the scale is the department of La Lozère, where the average annual consumption per head—or rather per mouth and nostrils—does not exceed 310 grammes. The consumption of tobacco for smoking and chewing purposes has increased 35 per cent. during the last twenty years, whereas the habit of snuff-taking has diminished 20 per cent. By the way, it is by no means uncommon to see students smoking in the hospital wards, and anyone who knew the late Professor Trélat, the distinguished surgeon of the Charité, will recollect how liberal he was with his cigarette case directly the morning visit was over, whilst he was having a final chat before leaving the wards.

The Cause of the Colouration and Coagulation of Milk when Heated.

It is a matter of common observation that milk heated in contact with air for a certain time becomes coagulated and assumes a yellow tint. Heated in a water bath this phenomenon occurs in from ten to fifteen hours. When boiled, coagulation occurs, and the milk assumes a caramel tint. The coagulation takes place as soon as the yellow colouration has attained a certain intensity. Observers have ascribed these curious colour changes to alteration either of the lactose or of the casein (Duclaux), and no satisfactory explanation of the clotting has ever been advanced. MM. Cazeneuve and Haddon[1] have, in consequence of researches on the subject, arrived at the following conclusions: (1) the yellowing by heat is due to the oxidation of the lactose in presence of the alkaline salts of the milk; (2) such oxidation generates acids, amongst others, formic acid, the presence of which determines, as would that of any other acid, the coagulation of the milk; and (3) the coagulated casein is not changed, but simply coloured yellow by the brown bodies developed at the expense of the milk-sugar.

Sudden Death after Fracture of the Patella.

Dr. Cerné reports in the *Normandie Médicale* of May 15th a case in which about twenty-four hours after a *séance* of massage for simple fracture of the knee-cap the patient died quite suddenly. The necropsy revealed as the cause of death an obliteration of the pulmonary artery by large clots detached from the deep femoral vein. Although the long interval between the occurrence of the catastrophe and the final massage would appear to exonerate this form of treatment, it is more than probable that it paved the way for the migration of the clots by breaking them up. It would follow that, whereas massage is indicated very early or very late after the receipt of the fracture, it is contraindicated where, after consolidation, the limb remains œdematous and boggy. Here it is probable that the large veins contain clots which any such manœuvres are liable to displace, to the great danger of the patient.

A Delicate Test for Albumen in Urine.

A 1 in 3 solution of resorcin is strongly recommended by M. Carès[2] as an infinitely more delicate test of the presence of albumen in urine than nitric acid. The *modus operandi* is so simple that the practitioner can easily apply it at the bedside, the material necessary being only a test-tube, a little pipette of 2 cubic centimetres capacity, and a packet containing 1 gramme of resorcin. The gramme of resorcin is introduced into the test-tube and dissolved, with shaking, in 2 cubic centimetres of ordinary water. The urine (whatever may be its reaction) is then, by means of the pipette, allowed to gently flow on the surface of the solution, when, should albumen be present, a white ring is developed at the line of demarcation, no other colouration ever being observed. Alkaloids (unless, as is never the case in urine, they be present in very large quantities), urates, and urea do not yield the white ring with resorcin. Peptones, however, when, as is rare, they are present in urine, give the ring, but the albumen ring remains while the peptone ring disappears when the tube is plunged into hot water. It is claimed that resorcin will give a cloudiness of albumen when nitric acid gives no result at all.

June 25th.

[1] Académie des Sciences, June 10th.
[2] Journal des Sciences Médicales de Lille, March 23rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The University of Jena.

THE publication of a rumour that the authorities intend to abolish the University of Jena has caused a stir in the scientific world, the university being one of the oldest in Germany and having often occupied a leading position. Financial reasons are said to have induced the authorities to arrive at this decision. The constitution of the University of Jena is somewhat peculiar. It is not under the jurisdiction of a single State, but belongs jointly to four States of Thuringia—viz., Saxe-Weimar, Meiningen, Coburg, and Altenburg. The Governments of those small States entirely control the affairs of the university. If, for instance, a new professor is to be appointed they must all consent to his nomination. To put a stop to the further propagation of this rumour the official journals of the four united Governments declare that the continued existence of this venerable university is assured both by public grants and by large donations recently made by old pupils and others. This communication has been received with general satisfaction, particularly in the town of Jena itself, which is entirely dependent upon the university.

The Resident Medical Officers of the Friedrichshain Hospital.

A conflict has arisen between the resident medical officers of this hospital and their superiors. The chief physicians and surgeons complained that the young medical men used to come home at unusually late hours, that they gave frequent festivities in the hospital, and that they were consequently not always fit for the next day's work. The resident medical men rather brusquely retorted that their superiors ought to mind their own business, and declined to modify their manner of living. The matter was accordingly brought before the Municipal Hospital Board, which decreed that all the resident medical officers were to be dismissed from their appointments. Although an arrangement took place afterwards between the chief physicians and surgeons and the resident medical staff the board nevertheless adhered to its decision, and all the resident staff will accordingly leave the hospital at the end of this month.

The Result of the Mellage Trial.

This sensational case, which I reported to you in my last letter, has led to several important consequences. The visiting physicians of the Mariaberg Asylum resigned their posts before the verdict was published, and the district officer of health has been dismissed from his appointment by the Government. The Mariaberg Asylum will entirely lose its ecclesiastical character. The provincial council intends to lease the premises, and will also undertake the care of the inmates, who for the most part belong to the poorer classes. Physicians have been already sent from other provincial asylums to attend the patients. Two of the brethren have been arrested for perjury, and will be brought before the next assizes. The clerical press, too, is unanimous in blaming the conduct of the brotherhood, and in accusing them of having brought great discredit on all branches of ecclesiastically conducted nursing. Public opinion being very much alarmed by the disclosures made during the trial, it is probable that the lunacy laws will be modified.

The Successors of Professors Thiersch and Ludwig.

Dr. Trendelenberg, Professor of Surgery in Bonn (Rhenish Prussia), will leave that town for Leipzig, where he has been elected successor to the late Professor Thiersch. Professor Trendelenberg is connected with English medicine. He began his studies in Edinburgh, where he attended botanical and zoological lectures; and from that town he went to Glasgow University to study anatomy and physiology. He finished his medical training in Berlin, but as a post-graduate returned to England in order to familiarise himself with the new antiseptic method of Professor Lister. Afterwards he became an

assistant to the late Professor von Langenbeck and chief surgeon of the new Friedrichshain Hospital in Berlin. His first professorial appointment was at the University of Rostock, which town he left for Bonn. His chair at the latter university will be taken by Professor Mikulicz of Breslau, formerly assistant to Professor Billroth in Vienna. The medical faculty has recently elected Professor Hering of Prague as successor to the great physiologist Professor Ludwig.

Colonial Laboratories.

The Imperial Government will bring a Bill before the Reichstag in order to establish medical laboratories in the German colonies. There is already one in Cameroon, West Coast of Africa, under the direction of Dr. Plehn, who has made several valuable researches, especially on the etiology of blackwater fever, as I mentioned in one of my recent letters. This laboratory is his private property, but he receives a subsidy from the colonial Government. Laboratories of this kind are now to be established in all the colonies, their principal purpose being the investigation of tropical diseases and tropical hygiene. The conditions of European acclimatisation in the different colonies will also be carefully examined. In addition a central institute for colonial medicine will be established in Berlin, which will receive communications from the laboratories, and will collect and publish the results of their investigations.

June 24th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Italian Hospitals.

THE LANCET has from time to time deplored the backward condition of the Italian hospitals, which (as Professor Luciani of our university has lately testified of the biological laboratories) are quite inadequate to modern requirements, whether from a humanitarian point of view or from that of medicine, scientific as well as clinical. All through the peninsula, and still more in the islands, the monotonous cry is heard from every medical school: "We are not abreast of the times. We are, even in our best-equipped hospitals, almost mediæval in our appointments." The justly distinguished school of Genoa, which, in spite of many and grave disadvantages, has sent forth surgeons and physicians of European reputation, has lately been the subject of a "Commissione d' Inchiesta," specially nominated to report on its hospitals. On that commission of inquiry are found the authoritative names of Dr. Giovanni Garibaldi (Professor of Surgical and Topographical Anatomy in the University), Dr. Canalis (Professor of Hygiene), and such eminent practitioners as Drs. Muzio, Carbone, and Ravano—men whose competence is not greater than their independence and impartiality. Their report, now made public, is a thorough-going and severe indictment of nearly all the departments of the city hospitals, in well-nigh every one of which they lament "la mancanza delle più elementari prescrizioni igieniche" (the want of the most rudimentary prescriptions of hygiene), and the slovenly manner in which the "servizio amministrativo" is carried out. The Italian public, which, as lately shown, can respond so nobly to the appeal of the Central Committee of the Red Cross, has only to become aware (through such reports as the present) of the discreditable state of the city hospitals to bring adequate pressure to bear on the Government and on the local municipalities for the worthy rehabilitation of those all-essential institutions. Relatively to the times the hospitals of Italy are far inferior to those in which her great mediæval surgeons and physicians practised and taught. Is she content to court much longer the humiliating comparison? Her penitentiary prisons are actually better appointed and better administered than her hospitals, as a recent visit to the great "penitenziario" of San Leopoldo (Leghorn) put clearly *en évidence*. The Commendatore dall' Oglio, the local prefect, concluded a rigorous inspection of the latter, in its sanitary and medical departments, with hearty words of praise for what he had examined and witnessed. Could he have said as much for the hospitals of the greatest city on that seaboard which is also the seat of a historical medical school?

"Death in the Pot."

We have been having a more than usually depressing turn of sirocco weather, well defined as "heat without sun, wind without air, and rain without freshness"—conditions under which all kinds of food, particularly meat and fish, are apt to decompose. Rome, like most populous Italian cities, abounds in "rivenditori ambulanti" (itinerant retail dealers) in such articles, frequenting the poorer quarters and often eluding the vigilance of the sanitary officers in the sale of unsound comestibles. In consequence, we have from time to time cases of ptomaine poisoning after the consumption of those viands, an exceptionally tragic case of which occurred early this year in Florence, where three out of a family of four died after eating fish in a putrescent state. The other day a well-to-do Roman farmer, with his wife and four children, nearly encountered a similar fate from precisely the same cause. At midday they had partaken of some fish from the Tiber, and by the evening they were all ill—all except the youngest child, who had dined off other viands. Severe intestinal pain was followed in each case by violent retching, and by eight o'clock they had to be removed for treatment to the Ospedale di Sant' Antonio. Fortunately, there was still time to evacuate the primæ viæ of their poisonous contents, and the patients, though in a deplorably reduced condition, are now doing well. But the lay press, not unjustifiably, is calling out for a more rigid censorship of these itinerant food-hawkers, who buy up the unsaleable stock of the butchers and fishmongers and vend it in obscure quarters on the sly. Naturally enough, it asks if it is only when the *forestieri* are in Rome that the sanitary inspectors are on the alert; and if the lives of the lieges must be endangered the moment the "foreign import" (*alias* well-to-do visitor) turns his back?

June 21st.

Obituary.

PATRICK KAVANAGH, M.D. ST. AND.

THE news of the death of Dr. Kavanagh, which took place quite suddenly at his residence in Brighton on the 25th inst., will be received with regret by a large circle of friends. Dr. Kavanagh retired from practice some years ago, having been formerly in practice at Lewisham for thirty years, and much confidence was felt in the neighbourhood in his professional skill and sound judgment. It would be impossible to speak of his benevolence and charity without apparent exaggeration, for his name will be rendered a household word with those among whom he laboured. Many officers now in the Army and Navy who were studying at the Royal Naval School, New-cross, of which he was medical officer, will remember his kindness. He was a classical and scientific scholar, as those who met him can testify. Prior to his death he was preparing an address to his supporters in Ireland, having accepted an invitation to stand as an Irish member. By his sudden decease many will have lost not only a wise adviser, but a true friend.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Wölfler, Imperial Councillor, and for many years director of the Vienna Jewish Hospital.—Dr. F. von Ried, formerly Professor of Surgery in the University of Jena.—Dr. A. Takacs, *privat docent* in Medicine in the University of Budapest.—Dr. J. S. Alleyne, formerly Professor of Materia Medica and Therapeutics in the St. Louis Medical College.

THE OBSTETRICAL CONGRESS IN VIENNA.

The Development of Obstetrics.

THE Congress met on June 5th, and was attended by a great many leading medical men. Professor Chrobak of Vienna presided, and in his opening address gave a short sketch of the Development of Obstetrics, in the course of which he remarked that some questions of the physiology and pathology of pregnancy and labour were as yet imperfectly understood, such as the fœtal metabolic processes, the placental nourishment and respiration, the theory of the inferior segment of the uterus, the mechanism of delivery, osteomalacia, and eclampsia. Baichard, Chamberland, and

Blanc have shown that eclampsia is caused by an intermediate metabolic product, and other authors, such as Schmorl, have assigned the formation of this virus to the liver. The researches of Drs. Ludwig and Savory have proved that during eclampsia the blood serum contains a virulent substance which is excreted by the kidney imperfectly, if at all, its composition according to Nencky and Pawhoff being $CO<\begin{matrix}ONH_4\\NH_2\end{matrix}$. Professor Chrobak then pointed out the necessity for clinical teachers of obstetrics keeping in view the interests both of the students and the patients. During 1889-94 there occurred in his clinic 18 263 births, and the puerperal fever rate was 2·2, 1·8, 5·6, 5·1, 4·4, and 4·1 per cent., the mortality being 0·13, 0·15, 0·27, 0·26, 0·16, and 0·09 per cent. He believes that digital exploration per vaginam is the only method of examination which possesses any value for the student; in his clinic every student makes from sixty to one hundred vaginal examinations in a half-year.

Rupture of the Uterus.

Herr Länger (Leipzig) discussed Bandl's theory of the so-called inferior segment of the uterus. This is that part of the body of the uterus which projects over Douglas's fold and extends to the perimetrium and internal os uteri; during the last stage of pregnancy this narrow segment becomes funnel-shaped. The speaker endeavoured to formulate a system including all cases of rupture of the uterus. The existence of the so-called post mortem ruptures has not been satisfactorily established, as they generally result from ante-mortem spontaneous ruptures. The uterus is never spontaneously ruptured in the third stage of labour, but forcible expression of the placenta at an unsuitable time, when the uterus is relaxed and atonic, may produce laceration and contusion of the uterus, reaching to the peritoneum. In cases of incomplete rupture the peritoneum may eventually give way, and the placenta may escape into the abdominal cavity. The exterior incomplete form is the rarest, and is characterised by multiple laceration of the peritoneum and of a part of the muscular layer of the uterus. As latent rupture is a rupture of the body of the uterus which passes only through the muscular layer, reaching to the peritoneum, it is caused by direct violence. Spontaneous ruptures only affect the body of the uterus, especially the fundus and the part around the internal opening of the oviduct. Contracted pelvis, stricture of the cervix uteri and ovarian cysts frequently cause ruptures. In the case of contracted pelvis and head presentation the patient is to be placed on that side where the head best dilates the genital canal, and she must not make bearing-down efforts. If rupture has taken place immediate delivery must be effected; but in the case of transverse presentation perforation or cephalotripsy is most favourable for the life of the mother; turning of the living child may be also tried, but when the child is dead it should be dismembered. When rupture has been diagnosed and the child is in the abdominal cavity it is to be removed by laparotomy. Neither plugging nor compression stops the bleeding. Amputation of the body of the uterus must be performed when its interior is thought to be septic or when myoma is present.

Dr. Haberda (Vienna) showed Preparations of Ruptures caused by the introduction of instruments in criminal cases of abortion. These injuries when healed leave weak places where spontaneous rupture may appear. When dilated the uterus gives way only in places which are fixed and immobile, such as the cervix or, in the case of incarceration, in consequence of contracted pelvis or pathological adhesions.

Dr. Hofmeier (Giessen) had seen cases where rupture occurred without any fixation of the os uteri. The bearing down of the woman and pressure on the abdomen constitute a uniformly distributed force which never can produce rupture of the uterus.

Dr. Veit (Berlin) believes that the fixation of the cervix downwards is caused by the connective tissue of the pelvis.

Dr. Winkel (Munich) said that compression of the abdomen may produce rupture, but only when performed by an unpractised operator or unequally.

Dr. Tauffer (Budapest) found among 471 births 25 penetrating and 17 non-penetrating ruptures. He obtained gratifying results by iodoform wool pellets; but laparotomy, which was performed in four cases, was quite unsuccessful.

Professor Chrobak is opposed to plugging, for by it an incomplete rupture may be converted into a complete one. The difficulty of vaginal extirpation consists in stopping the hæmorrhage from the parametrium.

Endometritis.

Professor Winckel (Munich) presented a report on Endometritis, of which he distinguishes two groups: (1) the simple forms resulting from the action of poisonous substances, general infection of the system or abortion, and the so-called endometritis exfoliativa; and (2) the purulent and bacterial forms caused by schizomycetes and protozoa (gonococcic and tuberculous varieties), by streptococci and staphylococci, saprophytes, diphtheria, and syphilis. Simple metritis arises from the return of blood from the uterus being impeded by excessive congestion, which may occur even in childhood in consequence of unsuitable clothing, imperfect ablution of the genitals, obstinate constipation, chlorosis, anæmia, and leukæmia, whereas after the period of puberty menstrual disturbances, ectopia and neoplasmata of the uterus, and diseases of the ovary are to be taken into consideration. Hæmorrhagic endometritis is a not uncommon sequel of burns, probably in consequence of obstruction of the vessels. Poisoning produces fatty degeneration of the small arteries and extravasation of blood into the mucous membrane; portions of the membranes of the ovum left in the uterus give rise to endometritis decidualis polyposa, which, when not entirely removed may, in the event of conception taking place, cause habitual abortion. In the purulent form the gonococcus most frequently attacks the urethra, then the cervix and oviducts, and rarely the vagina and vulva. From the cervix it both makes its way through the uterine wall to the peritoneum and ascends to the mucous membrane of the uterus. There is no immunity against this coccus; it occurs at every age and retains its virulence for years. Streptococcus pyogenes causes puerperal endometritis and attacks all parts of the mucous membrane of the womb, puerperal and non-puerperal, migrates through the wall of the uterus and oviducts to the peritoneum, and shows much variation according to the place of the inoculation, the number of the cocci, and the resistance of the organism. Primiparæ and women exhausted by hæmorrhage and protracted labour are specially disposed to be infected by this coccus. Syphilitic endometritis is not frequent; a place favourable to the infection is the anterior lip of the os uteri. The colour of the discharge is at first clear, then reddish yellow and green. The slimy, blood-stained, or clear secretion is inodorous, but it may become fetid by putrefaction. The pains resemble labour pains or uterine colic, and local pains also result from the engorgement of the secretion. The pains of exfoliative endometritis are characteristic, beginning before menstruation and being described as burning and itching in character; they are, moreover, associated with pains in the loins and inguinal region and with headache. Sterility as a consequence of endometritis results from swelling of the mucous membrane or retention and purulent charges of the secretion. Endometritis interferes with delivery by causing anomaly of the labour, premature rupture of the fœtal membranes, premature loosening of the placenta, and at last stenosis and atresia of the cavity of the uterus. In respect of duration endometritis may be acute, subacute, or chronic. At first the simple and purulent forms show an acute stage with variable fever and a slimy secretion becoming serous and fetid. The greater part pass into the subacute condition, especially those cases which are caused by abortion or premature birth. The endometritis of chlorosis and anæmia is at first acute or subacute, and eventually becomes chronic.

Dr. Wertheim (Vienna) spoke on the subject of Gonorrhœa of the Uterus. This is generally preceded by an inflammation of the mucous membrane of the uterus—endometritis interstitialis. Inflammatory processes of the muscular layer also occur, such as infiltration of the muscular connective tissue, which causes hyperplasia of the connective tissue at the expense of the muscular layer.

Dr. Fehling (Halle) described the Treatment of Endometritis. In puerperal endometritis vaginal injections are to be made with lysol, carbolic acid (0·5 to 2 per cent.) or corrosive sublimate (1 part in 4000), the latter being contraindicated in nephritis or anæmia. The contact of the nozzle of the injection apparatus with the vaginal portion of the uterus produces contraction sufficient to discharge the secretion. But if within twenty-four hours the symptoms do not subside the uterus is to be injected with from 2 to 3 litres of a tepid 0·5 per cent. solution of lysol. Dr. Fehling recommends abrasion of the uterus only in endometritis occurring in the second week of childbed (caused by retained fragments of the membranes and placenta), and in endometritis after abortion. After the abrasion cauterising with a 50 per cent.

solution of carbolic acid in alcohol is to be performed. The treatment of the other acute forms of endometritis consists in repose, the use of ice, laxatives, morphine, or codeine, and brushing of the cervix with a 10 per cent. solution of nitrate of silver. Chronic endometritis is to be treated by tincture of iodine (10 to 20 per cent.), or a 50 per cent. solution of carbolic acid in alcohol. Gratifying results may also be obtained by an electric current of from 20 to 50 milliampères, the anode being introduced into the cavity of the uterus, and the cathode being laid on the abdomen; this method is specially applicable to climacteric bleedings attended by necrosis and scars of the mucous membrane.

Vomiting of Pregnancy.

Dr. Tuszkai (Budapest) presented a report on the Vomiting of Pregnancy (hyperemesis gravidarum). Vomiting without any complication is caused by a local peritoneal irritation and leads to inanition, decrease of the weight of the body, and diminished secretion of urine. He combats it with small doses of opium, the local application of cold, or the induction of premature labour by means of a double-current apparatus of Hegar's pattern, through which water passes at a temperature of 50° or 60° C.

Other papers.—At the final sitting Dr. Schanta (Vienna) made some observations on adnex operations. The results have not been satisfactory, for only 56 per cent. of the patients were permanently benefited; the remainder complain of leucorrhœa, hæmorrhage, and pains. In these cases there were adhesions of the intestine, urinary bladder, and omentum to the pelvic organs.

Dr. Erlach (Vienna) presented a report on sixty-nine cases operated on for Myoma of the Uterus.

Dr. Sänger discussed Humid Asepsis in the Abdominal Cavity. He has obtained good results by Tavel's solution, which contains 7·5 parts of common salt and 2·5 of soda in 1000 parts of water.

Dr. Winter (Berlin) spoke on the subject of Gastrorrhaphy and Abdominal Herniæ. The mortality of herniæ treated by laparotomy, which formerly amounted to one-third of all cases operated on, has now fallen to 8 per cent.; an exact suturing of the aponeurosis with catgut is of great importance.

Dr. Klein (Munich) described the Anatomy and Histology of the Urethra. In the vestibulum vaginæ there are three species of glands—Skene's and Bartholin's, and the simple acinous mucous glands. Skene's glands are analogous to the prostatic glands in the male, those of Bartholin to Cowper's glands, and the mucous glands to Littré's. Males and females, therefore, possesses analogous glandular structures.

Many other papers were also read before the Congress, but we are compelled by exigencies of space to leave them unrecorded. The reception on behalf of the profession of Vienna was very cordial. The next Congress of the Obstetrical Society will take place in 1897 at Leipzig. The subjects to which special attention will be directed are retroflexion of the uterus and placenta prævia. The following gentlemen were elected officers of the society:—President, Dr. Zweifel; vice-president, Professor Chrobak; manager, Dr. Schatz; and secretaries, Drs. Pfaunenschmied and Sänger.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates have passed in the undermentioned subjects:—

Surgery.—J. Blackwood, University College; F. H. Blatchford, St. Mary's Hospital; F. E. Bromley, London Hospital; B. L. Dhingra, Lahore; A. P. Eldred, St. Mary's Hospital; A. H. H. Huckle, Guy's Hospital; W. B. Maurice, St. Mary's Hospital; A. H. Palmer, Birmingham and Guy's Hospital; R. G. Worger, Bristol and Guy's Hospital; A. M. St. J. Wright, Madras.

Medicine, Forensic Medicine, and Midwifery.—J. Blackwood, University College; M. A. Cooke, St. Bartholomew's Hospital; R. A. Fegan, St. Bartholomew's Hospital; A. H. Palmer, Birmingham and Guy's Hospital; C. J. Palmer, Birmingham and Liverpool.

Medicine and Midwifery.—J. W. Clegg, Manchester; R. B. Rees, Middlesex Hospital.

Medicine.—E. A. B. Poole, Birmingham.

Forensic Medicine and Midwifery.—W. A. Montgomery, St. Thomas's Hospital; C. Blue, Belfast.

Forensic Medicine.—H. G. C. Hardwick, Cambridge and St. Thomas's Hospital; J. A. Morgan, Charing-cross Hospital; R. G. Worger, Bristol and Guy's Hospital.

Midwifery.—T. H. Wilkins, Charing-cross Hospital.

To Messrs. Blackwood, Cooke, Clegg, Fegan, Hardwick, Huckle, Morgan, A. H. Palmer, Rees, and Worger was granted the diploma of the society entitling them to practise Medicine, Surgery, and Midwifery.

FOREIGN UNIVERSITY INTELLIGENCE.—*Bordeaux:* MM. Binaud and Braquehaye have been appointed *professeurs-agrégés* of Surgery.—*Freiburg:* Dr. Schütle has been recognised as *privat-docent* in Medicine and Dr. Reerinck as *privat-docent* in Surgery.—*Kazan:* Dr. V. Kuzmin of Moscow has been appointed to succeed Professor Levshin in the chair of Surgery.—*Lille:* M. Oui has been appointed *professeur-agrége* of Midwifery.—*Lyons:* MM. Vallas and Curtillet have been appointed *professeurs-agrégés* of Surgery.—*Montpellier:* M. G. de Rouville has been appointed *professeur-agrégé* of Surgery, and MM. Puech and Vallois *professeurs-agrégés* of Midwifery.—*Montevideo:* Dr. L. Morquio has been appointed to the chair of Internal Pathology, Dr. Poney to that of Clinical Gynæcology, Dr. Navarro to that of Operative Medicine, and Dr. G. Sanarelli of Sienna to that of Hygiene.—*Paris:* M. Bonnaire has been appointed *professeur-agrégé* of Midwifery, and MM. Broca, Hartmann, and Walther *professeurs-agrégés* of Surgery.—*Nancy:* MM. Schuhl and Froelich have been appointed *professeurs agrégés* respectively of Midwifery and Surgery.—*St. Petersburg* (*Military Medico-Chirurgical Academy*): Dr. Ladovski has been appointed to the chair of Histology and Embryology.—*Saragossa:* Dr. Luis Guedea of Barcelona has been appointed to the Chair of Clinical Midwifery.—*Sienna:* Dr. Falaschi has been promoted to be Ordinary Professor of Midwifery.—*Toulouse:* M. Aldibert has been appointed *professeur-agrégé* of Surgery.—*Turin:* Dr. Sansoni has been recognised as *privat-docent* in Medical Pathology, Dr. Roncoroni as *privat-docent* in Psychiatry, and Dr. Vicarelli as *privat docent* in Midwifery and Gynæcology.

MEDICAL MAGISTRATES.—Dr. Joseph A. Bowen and Dr. John Lonie of Preston, Lancashire, have been placed on the Commission of the Peace for that borough.—Dr. James John Gorham of Garstang, Lancashire, has been placed on the Commission of the Peace for the county of Lancaster.

A QUARTERLY MEETING of the Society for the Study of Inebriety will be held in the rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W., on Thursday, July 4th, 1895, at 4 o'clock P.M., when Dr. Norman Kerr, M.D., F.L.S., will open a discussion on the Government New Inebriates Bill, 1895.

ROYAL METEOROLOGICAL SOCIETY.—The last meeting of this society for the present session was held on the 19th inst. at the Surveyors' Institution, Westminster, Mr. R. Inwards, F.R.A.S., President, being in the chair. Mr. R. H. Curtis, F.R. Met. Soc., read a paper on the Hourly Variation of Sunshine at Seven Stations in the British Isles, which was based upon the records for the ten years 1881–90. Falmouth is decidedly the most sunny station of the seven, having a daily average amount of sunshine of 4¼ hours. This amount is half an hour more than that recorded at Valencia and three-quarters of an hour more than at Kew. Of the other four stations, Aberdeen, the most northern but at the same time a coast station, with 3·64 hours, has more than either Stonyhurst or Armagh, both inland stations; whilst Glasgow, with only 3 hours, or about a quarter of its possible amount, has the smallest record of the seven, a result to some extent due to the nearness of the observatory to the large manufacturing works with which the city of Glasgow abounds. At Valencia, Kew, Stonyhurst, and Armagh the maximum duration is reached in May, the daily mean amount varying in the order named from 6¾ to 6 hours. At Falmouth and at the Scotch stations the increase goes on to June, when the mean duration at Falmouth reaches 7½ hours, at Aberdeen 6¼ hours, and at Glasgow 5·6 hours. January and December are the most sunless months of the year. The most prominent feature brought out at all the stations is the rapid increase in the mean hourly amount of sunshine recorded during the first few hours following sunrise and the even more rapid falling off again just before sunset.—Mr. H. Harries, F.R.Met.Soc., read a paper on the Frequency, Size, and Distribution of Hail at Sea. He has examined a large number of ships' logs in the Meteorological Office, and finds that hail has been observed in all latitudes as far as ships go north and south of the equator, and that seamen meet with it over wide belts on the Polar side of the 35th parallel.

PROFESSOR HUXLEY.—We regret to learn that Professor Huxley's condition remains one that gives cause for the gravest anxiety. He is very exhausted, and the symptoms directly dependent upon insufficient action of the kidneys are still present. There is constant nausea, and on Thursday signs of pericarditis became manifest. He is, however, not drowsy, and his mind is quite clear. The rally of the early part of the week has proved of a temporary character.

SERVICES APPRECIATED.—Mr. John Ashburton Thompson, M.D. Brux., D.P.H. Camb., L.R.C.P. Lond., M.R.C.S., of Sydney, New South Wales, has been awarded a prize of fifty guineas by the National Leprosy Commission for his researches with regard to leprosy.

PRESENTATION.—Mr. George Watson H. Tawse, M.B. Aberd., house surgeon at the Whitehaven and West Cumberland Infirmary, Whitehaven, was presented, on the 11th inst., by the members of the Whitehaven Police St. John Ambulance Class, with a handsome dressing-case and meerschaum cigar-holder, in appreciation of a course of lectures given to the class on "First Aid."

THE GRAND PRIORY OF THE ORDER OF THE HOSPITAL OF ST. JOHN OF JERUSALEM IN ENGLAND.—On Monday last, being St. John the Baptist's Day, the members and honorary associates of the Grand Priory of the Order of the Hospital of St. John of Jerusalem in England, of which Her Majesty the Queen is the sovereign head and patron, and His Royal Highness the Prince of Wales Grand Prior, met together for their annual festival. After the celebration of the Communion at 10.15 A.M. a service was held in St. John's Church, Clerkenwell, built on the site of the Church of the Old Priory of the Order, the original crypt belonging to which still remains and was last year restored and lighted through the munificence of the late Sir Edmund A. H. Lechmere, Bart., M.P., a distinguished member of the Order. The service was conducted by the Rev. Thomas W. Wood, a chaplain of the Order and rector of St. John's, assisted by the Right Rev. the Bishop of Gibraltar, the Rev. Canon Whittington, M.A., the Rev. Paul W. Wyatt, M.A., the Rev. Sir Borrodaile Savory, Bart., M.A., the Rev. Edgar Sheppard, M.A., and the Rev. Canon Teignmouth Shore, M.A., all chaplains of the Order., the latter of whom preached the sermon, taking as his text St. Matthew, Chapter xi., verse 7. After the commemoration service the members present inspected the crypt, and in the afternoon, by permission of the Rev. Canon Elwyn, Master of the Charterhouse, the general assembly of the Order was held in that historical building, the Earl of Lathom, G.C.B. (Chancellor of the Order), presiding. Reports having been read on the work of the Order and its various departments, including the British Ophthalmic Hospital at Jerusalem and the St. John Ambulance Association, a demonstration of ambulance work was given in the grounds of the Charterhouse by members of the metropolitan corps of the St. John Ambulance Brigade, under the direction of the Commissioner, Colonel E. T. Thackeray, R.E., C.B., V.C., exemplifying in a very marked manner the great utility of the training received by its members. In the evening the *confrères* and ladies of the Order dined together at the Imperial Institute.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Midwives Registration Bill.

THIS Bill was amended on report on the 20th inst., and is now printed as amended. The changes show a disposition to meet the views of the General Medical Council. One of these, in Subsection 5 under Clause 12, has reference to removal from the Register, and reads as follows:—"For the purpose of this section professional misconduct shall, in addition to any other misconduct, include any omission to send for a medical practitioner where the case is not one of natural labour." The sudden interruption of all legislative work of Parliament makes it hopeless to expect further progress for this measure in the present session. We may, therefore, leave for the present any further notice of the changes introduced into the Bill.

Resignation of the Ministry.

Lord Rosebery in the House of Lords, and Sir William Harcourt in the House of Commons, announced on Monday, June 24th, that the Ministry had resigned in consequence of the adverse vote in Committee of Supply on the previous Friday evening. The Marquis of Salisbury is now engaged forming a new Ministry.

Fatal Accidents Inquiry (Scotland) Bill.

The Grand Committee of the House of Commons for the consideration of Scotch Bills met on Monday, June 24th, and disposed of the remaining clauses of the Fatal Accidents Inquiry (Scotland) Bill.

HOUSE OF LORDS.

FRIDAY, JUNE 21ST.

Inebriates Bill.

There was a short debate at this sitting on the order for the second reading of the Inebriates Bill. The Lord Chancellor (Lord Herschell), in moving the second reading, said the Bill was free altogether from party aim or party origin. It was founded on the recommendations of the two committees which had dealt with the subject. He doubted whether anyone could be found to say that our present method of dealing with those who were convicted of habitual drunkenness was satisfactory. It appeared that out of 33,000 women who were every year on an average sent to prison for drunkenness 11,000 had not less than ten convictions recorded against them; and of the men 16,000 had each undergone not less than the same number of imprisonments. In one of the London prisons there were at the time the return was prepared 105 women who had been committed from 40 to 133 times in the course of a year. One woman had only a week's liberty during twelve months, although all her sentences had been very short ones. Another woman in the course of a year and eight months was convicted such a great number of times that she spent five separate months and 138 days of that period in prison. It was certain that our present system of dealing with those cases entirely and absolutely failed. It neither cured nor deterred; and if it did not do the one or the other it failed absolutely for the purpose for which imprisonment was designed. Sir Andrew Clark, in his evidence before the Home Office Committee, put the case very truly when he said that short sentences had only the effect of strengthening the organisation to enable such people to indulge in more drunken bouts when they got out; that in nine out of ten cases there was an orgie on the very day of their escape from prison; and that short sentences were useful for no purpose but the purpose of revenge. The present system had therefore failed. The Bill proposed to deal with two classes of habitual drunkards—those who had rendered themselves amenable to the criminal law and those who had not rendered themselves so amenable. The proposal of the Bill was that a habitual drunkard, who had been repeatedly convicted for drunkenness, should be detained in an inebriate reformatory for a period of not less than twelve months. No one would say that twelve months' imprisonment under the ordinary conditions of imprisonment should be imposed even for repeated drunkenness or offences connected with drunkenness. But to deal with habitual drunkards in an inebriate reformatory, in which the object was by a lengthened period of detention to effect a cure, was, it appeared to him, a different matter, and one which would not shock any sense of justice or propriety. The maximum period of five years mentioned in the Bill was a mistake: it should have been three years. This, however, was a detail, and the only principle involved was that the period should be sufficiently long to be useful for the purpose of a cure. With regard to those who had not rendered themselves amenable to the law the Bill contained provisions which no doubt were of a serious and stringent character. At the present time there might be detention in a retreat, but it was a voluntary detention. The Bill proposed to permit detention to be obtained compulsorily by an order of the Court in the case of those who were habitual drunkards. The application might be made either to the county court or to the High Court. If made to the county court an order made might be appealed against to the High Court; therefore it might be said that, except by order of the High Court, no person could, in the last resort, be subjected to detention in a retreat under the provisions of the Bill. The Bill proposed that the *minimum* of detention should be twelve months and the *maximum* two years, but there was further provision that during the time of detention the person detained might be allowed to be at large in order to ascertain whether the time had come when he might safely be let at liberty. The Bill also proposed, following the recommendations of the committee, that the Court should have power to appoint a person to take charge of the property of a person in the retreat, if thought fit, during the time of detention. The idea that compulsion was expedient did not rest upon the opinion merely of the two committees. Before the Home Office Committee there were placed the remarks of a number of boards of guardians, all in favour of compulsory detention, and there were many representations of justices of the peace in the same direction. The question really was whether there was any reasonable prospect of a cure in cases of habitual drunkenness by means of detention. On that point it seemed to him the evidence was very strong, although it was necessarily limited in its character. In the first place he would call attention to the memorial of a number of eminent medical men, which was presented to the Home Office Committee, on whose report this Bill was largely founded. That memorial was signed by medical men of the highest eminence, including Sir William Jenner and Sir Henry Acland. A number of the most eminent medical authorities signed a memorandum expressing an earnest desire for the compulsory restraint—with all proper safeguards—of those men and women who could not control themselves in this direction, and expressing the opinion that much good might be done if compulsory detention could be enforced for a sufficient time. These medical authorities must come in contact with a great number of these unfortunate people, being consulted by the friends and relatives, and their opinion was of great weight. He was fully alive to the fact that there were plenty of details in the Bill open to criticism, and perhaps to condemnation, but all that was asked for now was a second reading of the Bill. If the House came to the conclusion that it was not safe to deal with the non-criminal cases, though he hoped that would not be their conclusion, still they could hardly doubt that an effort ought to be made to deal with the criminal cases so as to make the law more rational and productive of good.

Lord Halsbury thought there were portions of the Bill which might

with advantage be passed into law. He was ready to support the Lord Chancellor in some form of legislation (he did not think this Bill was the best form) for those habitual drunkards who had disobeyed the law and therefore forfeited their right to free action. This Bill, however, was a most serious and extraordinary innovation. It was nothing more nor less than a repeal of the Habeas Corpus Act. He would be very glad indeed if there was such an institution in England as the French *conseil de famille*: but to say that anyone who pleased might apply to a county court judge to shut up somebody else appeared to him to be the very extravagance of legislation, and if the Bill had not comprehended what he conceived to be a proper subject for inquiry he should have moved its rejection altogether. He did not, however, propose to take that course, and had only indicated generally what the line of his opposition to the measure was. He had only further to say that he hoped that that part of the Bill to which he had taken exception would be thrown out by their lordships.

Lord Ashbourne, while appreciating the motives that had suggested the Bill, said that in its present shape it was full of dangers and lent itself to grave abuses.

The Lord Chancellor, in some further remarks, said his noble friend (Lord Halsbury) seemed to think that a man had a perfect right to be a habitual drunkard if only he did not go into the streets or some public place and break the law. He differed from that view entirely. There were cases—it was difficult to define them—in which a habitual drunkard, whether husband or wife, seemed to be worse than many criminals. The children neglected, the father or mother having to send them away, clothes pawned, the children often left for a time without food—not to such an extent as to amount to cruelty in the eye of the criminal law, but violating every possible duty a father or mother could owe to children or husband and wife to one another—he regarded that as a most serious and terrible state of things. If they could deal with cases of that description, if they could mitigate such misery, it was worth while making an effort, even running some risk, to do so. They could not have legislation without a certain risk, though by all means let the risk be limited as much as possible.

The Marquis of Salisbury warned their lordships that in this matter they were meddling with edged tools, and hoped that the first three clauses of the Bill would not, at least in their present form, ever appear on the Statute Book.

The Earl of Kimberley appealed to their lordships to give the Bill a second reading in order that an attempt might be made to deal with what was admittedly a difficult question.

The Bill was then read a second time.

HOUSE OF COMMONS.

THURSDAY, JUNE 20TH.

The Rations of the Army.

Mr. Campbell-Bannerman, in reply to Mr. Fuller, said that no complaints as to the quality of rations supplied to the troops at home had reached the War Office, and there was every reason, judging by the ration inspectors' reports, to believe that the rations were of very good quality. Since 1888 there had been a steady progressive improvement in the food of the soldier. This was due partly to a better quality being supplied owing to a system of surprise visits by expert ration inspectors having been adopted, and partly to the instruction which had been given to regimental officers in inspection of meat in the Army Service Corps School of Instruction at Aldershot. Greater care was also now taken in cooking and in utilising all portions of rations according to a system which was begun in Ireland by Colonel Burnett, and afterwards brought to perfection at the Army School of Cookery at Aldershot. It was the duty of the officer in command to prevent food which was not good from being served out to the men. There had certainly been no difference under successive Governments in respect of the food arrangements beyond the steady improvement to which he had referred.

Disinfecting Dairy Produce.

Sir Mark Stewart asked the President of the Board of Agriculture if he could inform the House what precautionary measures, if any, were adopted by Holland, Denmark, Australia, New Zealand, or other foreign or colonial countries for the disinfecting of dairy produce imported into this country, and what security this country had as to immunity from disease when receiving such produce.—Mr. Shaw-Lefevre, replying for Mr. Herbert Gardner, said he had no information as to what precautionary measures of disinfection were applied to dairy produce in the countries referred to, nor was he aware how such measures of disinfection could be applied to the many articles of dairy produce that came to this country. In some of the countries, however, the milk was sterilised.—Sir Mark Stewart asked if the Government proposed to take any measures or make any inquiry with regard to this important matter.—Mr. Shaw-Lefevre said that at present there was no intention of introducing any measure on the subject.—Mr. Hanbury asked if the Government would make inquiries, and see that the same protection was afforded to people of this country as was afforded in most foreign countries.—Mr. Shaw-Lefevre said that was a matter of argument.

FRIDAY, JUNE 21ST.

Vision Tests for Railway Servants.

Mr. Bryce, replying to Sir James Carmichael, said that the Board of Trade had no power to insist upon the adoption by railway companies of any particular system of tests; the companies must use their discretion in the matter. The Board of Trade had, however, felt it their duty to press upon the attention of the companies the recommendations on the subject made by such an authoritative body as a committee of the Royal Society.

Sunstroke at Aldershot.

Mr. Jeffreys asked the Secretary for War whether his attention had been drawn to the deaths from sunstroke of two soldiers at Aldershot; whether, on Saturday, June 8th, companies of Regulars and Volunteers had to march from Weybridge to Bisley, a distance of twelve miles, under a burning sun, in consequence of which several men were invalided; what was the extent and nature of the medical aid obtainable on the ground on June 8th; and what, if any, provision had been made for the relief of any sufferers amongst the 700 or 800 men engaged in the firing competition on that day; and whether in future these long marches during the heat of the day would be discontinued except in cases of necessity.—Mr. Campbell-Bannerman replied that his attention had been called to this melancholy occurrence. There was a rifle competition at Bisley on Saturday, June 8th, and under the terms of the competition competitors had to march eleven miles, but there was no compulsion to do so beyond emulation. This was not a long march, and there did not appear to be any reason to interfere with the conditions of a voluntary competition on account of this most regrettable incident. Ample medical aid was at hand, and, as a matter of fact, was afforded by the medical officer of the Guards from the adjacent Guards' camp at Pirbright.—Mr. Gibson Bowles suggested that the right honourable gentleman might give his attention to the subject of a more reasonable headgear for the private soldier than the present forage cap.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

ADAMS, GEORGE, M.R.C.S., has been appointed Medical Officer by the Long Ashton District Council.

BIRD, FRED. D., M.B., Ch.B., Ch.M. Melb., M.R.C.S. Eng., has been appointed Lecturer on Surgery to the Melbourne University, Victoria, Australia.

BRODIE, WILLIAM B., M.B., M.S. Glasg., has been appointed Assistant House Surgeon and Dispenser to the Worcester Infirmary.

CLUBBE, CHAS. P. B., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed Honorary Surgeon to the Prince Alfred Hospital and also Lecturer in Clinical Surgery at the Sydney University, New South Wales.

CRAIG, G., M.B., M.S Edin., has been appointed Assistant Medical Officer to the Lunatic Asylum at Seacliff, near Dunedin, New Zealand.

CRAWFORD, A. D., M.B., C.M. Glasg., has been appointed Medical Officer to the Marston Green Homes.

DAVIS, S.B., M.B., C.M. Edin., has been appointed Resident Medical Officer of the Toodyay district, Western Australia, vice Mayhew, resigned.

FOSTER, WILLIAM, M.B., D.P.H. Camb., M.R.C.S., has been appointed Medical Officer by the Shipley District Council.

GRAHAM, JAMES, M.D., Ch.M. Edin., has been appointed Honorary Assistant Physician to the Prince Alfred Hospital, Sydney, New South Wales.

HALL, G., M.D., C.M. Edin., has been appointed Medical Officer of Health by the Hambledon Rural District Council.

HARR'S, JOHN W., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer for the Frittenden Sanitary District of the Cranbrook Union.

HART, J. W., M.B., Ch.M. Edin., has been appointed Medical Officer to the Hospital at Barraba, New South Wales.

HASWELL, JOHN F., M.B., C.M. Edin., M.R.C.S., has been appointed Medical Officer of Health for the Penrith Rural Sanitary District, vice Robertson.

HILLARY, ARTHUR, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Pontefract Urban Sanitary District, vice Buncle.

HODGSON, THOS., M.B., Ch.B. Melb., has been appointed Honorary Assistant Demonstrator of Anatomy to the Melbourne University, Victoria, Australia.

HUNTON, FRED., M.D., M.B., B.S. Durh., has been appointed Medical Officer for the Stockton Parochial District.

JONES, HENRY T., L.R.C.P., M.R.C.S., has been appointed Medical Officer of Health to the Pembroke Rural District Council.

KING, F. T., M.B., Ch.M. Edin., has been appointed Medical Superintendent to the Lunatic Asylum at Seacliff, near Dunedin, New Zealand.

MACKNIGHT, C. C., M.B., Ch.M. Edin., has been appointed Health Officer for Carisbrook, Victoria, Australia.

MCGEE, WM., L.K.Q.C.P., L.R.C.S., L.M. Irel., has been appointed Officer of Health for the Shire of Poowong and Jeetho, Victoria, Australia.

NEWALL, W. A., M.B., Ch.B. Vict., has been appointed Assistant House Surgeon to the Leicester Infirmary.

ROBINSON, THOS. H., M.D., Ch.M. Edin., has been appointed *pro tem.* Acting Resident Medical and Quarantine Officer, at Albany, Western Australia.

SANGSTER, JOHN I., L.R.C.P., L.M. Edin., M.R.C.S. Eng., has been appointed a Public Vaccinator for the district of Burra, South, Australia.

SINCLAIR, ROBT. F., M.B., C.M. Edin., has been appointed Government Medical Officer and Vaccinator for the District of Brewarrina, New South Wales.

SMYTH, ERNEST J., M.B., B.S. Lond., B.Sc., L.R.C.P. Lond., M.R.C.S. has been appointed Assistant Medical Officer to the Parish of Birmingham Infirmary, vice Tipping, resigned.

SPICER, R. H. S., M.D. St. And., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Third Sanitary District of the Southmolton Union.

STRADLING, W. A., M.R.C.S., has been appointed Surgeon to the Watford and Abbots Langley Sections of the Herts Police.

THRING, EDWARD T., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Assistant Gynæcological Surgeon to the Prince Alfred Hospital, Sydney, New South Wales.

WEBBER, H. W., M.D. Lond., B.S., L.R.C.P., M.R.C.S., has been appointed a Divisional Surgeon to the Herts County Police.

WHITE, A. T., L.R.C.P., L.R.C.S., L.M. Edin., has been appointed *pro tem.* Resident Medical Officer at Fremantle, Western Australia.

WOOD, W. A., M.B., Ch.B. Melb., L.R.C.P., D.P.H. Eng., has been appointed Honorary Assistant Demonstrator of Anatomy to the Melbourne University, Victoria, Australia.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary £150 per annum, with an allowance of £30 per annum for cab hire, and furnished rooms, fire, lights, and attendance.

BRADFORD INFIRMARY AND DISPENSARY.—Honorary Physician.

CANCER HOSPITAL (free), Fulham-road, S.W.—House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

CHARLOTTE HOSPITAL FOR WOMEN AND CHILDREN, Ludhiana, Punjab, India.—Fully qualified Woman Doctor. Applications to Dr. Greenfield, 7, Heriots-row, Edinburgh.

GLAMORGANSHIRE AND MONMOUTHSHIRE INFIRMARY, Cardiff.—Assistant Resident Medical Officer for six months. Board, washing, and apartments provided.

GUY'S HOSPITAL MEDICAL SCHOOL, London.—Lecturer on Public Health.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident Medical Officer. Salary £200 per annum, with board and residence.

LONDON HOSPITAL, Mile End, E.—Medical Electrician.

LONDON HOSPITAL MEDICAL COLLEGE, Mile End, E.—Senior Demonstrator of Physiology. Salary £100 a year and a proportion of the fees paid for classes. Also Assistant Demonstrator of Physiology. Salary £50 a year.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Assistant Resident Medical Officer for six months. Board, washing, and residence in the hospital is provided, and an honorarium of five guineas at the expiration of that term will be given.

MALLING RURAL DISTRICT COUNCIL.—Medical Officer of Health. Salary £100 per annum, to include all office and travelling expenses. Applications to the Clerk, West Malling.

MID-LOTHIAN AND PEEBLES DISTRICT ASYLUM AT ROSSLYNLEE.—Assistant Medical Officer. Salary, £100 per annum, with furnished apartments, board, and washing. Applications to the Clerk and Treasurer, 19, Heriot-row, Edinburgh.

NATIONAL SANATORIUM FOR CONSUMPTION AND DISEASES OF THE CHEST, locally situated at Bournemouth.—Resident Medical Officer. Salary £80 per annum, with board, lodging and washing.

NEWPORT AND MONMOUTHSHIRE INFIRMARY, Newport, Mon.—House Surgeon. Salary £100 per annum, with board and residence. No stimulants provided.

ROYAL VICTORIA HOSPITAL, Bournemouth.—House Surgeon and Secretary for two years. Salary £100 per annum, with board.

SHEFFIELD UNION.—Junior Assistant Medical Officer, unmarried, for the Workhouse Infirmary, Fir Vale, Sheffield, for six months. Furnished apartments in the Infirmary and board and washing provided.

ST. COLUMB MAJOR UNION.—Medical Officer and Public Vaccinator for the Fifth District of the Union. Salary £26 per annum, with the usual extra medical fees and successful vaccinations. Applications to the Clerk to the Guardians, St. Colomb.

SUFFOLK GENERAL HOSPITAL, Bury St. Edmunds.—House Surgeon. Salary £100 a year, with boad, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

BULLOCK.—On June 25th, at Eastgate House, Warwick, the wife of Roger Bullock, M.R.C.S., of a son.

CALVERT.—On June 19th, at Queen Anne-street, the wife of James Calvert, M.D., of a daughter.

CARR.—On May 20th, at Julfa, Ispahan, Persia, the wife of D. W. Carr, of a son.

DOVE.—On June 20th, at Stapleton-hall-road, Stroud Green, the wife of Percy W. Dove, M.R.C.S., L.R.C.P., prematurely, of a son, which only survived its birth a few hours.

MARRIAGES.

GRIFFITHS—PAYNE.—On June 20th, at St. George's, Hanover-square, by the Rev. W. A. Pywell, M.A., Rector of Whixoe, assisted by the Rev. A. E. Hermann, M.A., Dr. Joseph Griffiths, King's College, Cambridge, to Ethel Mary, youngest daughter of F. Payne, J.P., Water Hall, Whixoe, Suffolk.

MABERLY—BAM.—On May 18th, at the Dutch Reformed Church, Pietersberg, Transvaal, John Maberly, M.R.C.S., L.R.C.P. Eng., of Buluwayo, Matabeleland, to Maria Johanna, eighth daughter of John H. Bam, of Cape Town, South Africa.

TROW—HUTCHISON.—On June 19th, at St. Andrew's Church, Aberdeen, Augustus Vivian Trow, M.B., C.M. Aberd., of Devizes, Wilts, to Katharine Arbuthnot, eldest daughter of Thomas Hutchison, Ingleside, Cults.

DEATHS.

KAVANAGH.—On June 24th, suddenly, at Brighton, from aortic rudture, Patrick Kavanagh, M.D. St. And.

SYLVESTER.—On June 24th, at the Court House, Trowbridge, Wiltshire, George Mairis Sylvester, M.R.C.S., in his 78th year.

WILLIAMSON.—On June 15rd, at Elms-road, Clapham, Surrey, William Crawford Williamson, LL.D., F.R.S., late Professor of Botany in Owens College, Manchester, aged 78.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 27th, 1895.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Dry Bulb	Wet Bulb	Solar Radiation in Vacuo	Maximum Temp Shade	Min Temp	Rainfall	Remarks at 8.30 A.M.
June 21	30·26	W.	63	55	124	76	53	...	Bright
" 22	30·34	S.W.	62	60	121	78	60	...	Overcast
" 23	30·40	S.W.	69	63	128	85	59	...	Bright
" 24	30·43	N.E.	67	62	115	78	64	...	Overcast
" 25	30·40	N.E.	63	53	119	82	53	...	Bright
" 26	30·18	S.	67	60	116	84	59	...	Hazy
" 27	29·95	W.	70	58	102	75	61	...	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians. 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.).

TUESDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Gt. Northern Central (2.30 P.M.).

WEDNESDAY.—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.).

THURSDAY.—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Soho-square (2 P.M.), North West London (2 P.M.).

FRIDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.).

SATURDAY.—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY.—OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Mr. Doran (for Dr. Lowe and Mr. Bradbury), Mr. Targett, and Dr. Blacker. Adjourned Discussion on Dr. Eden's paper on "The Development and Normal Structure of the Human Placenta." Papers:—Mr. Alban Doran: Placental Polypus.—Dr. T. G. Stevens: Notes on the Variation in Height of the Fundus Uteri above the Symphysis during the Puerperium; the Conditions which influence this, and the Practical Conclusions which may be drawn from such observations.

FRIDAY.—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8.30 P.M. Card Specimens at 8 P.M.: Dr. E. H. Cartwright: Modification of Thompson's Test for Colour Vision. Papers:—Mr. Walter H. Jessop: Some cases of Graves' Disease with Destruction of Eyes.—Mr. Rayner D. Batten: The Connexion between some cases of Myopia and Disease of the Nose and Pharynx. And other papers.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

WEDNESDAY.—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3 P.M. Lecture by Dr. Gowers.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-sq., W.C.).—5 to 6 P.M. Dr. Morgan Dockrell: Neuroses.

SATURDAY.—ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-sq., W.C.).—5 P.M. Dr. Morgan Dockrell: Exfoliative Dermatitis.

During the week marked copies of the following newspapers have been received:—*Walsall Advertiser, Times of India, West London Observer, Birmingham Post, Pioneer Mail, Carlisle Patriot, Sussex Daily News, Cambrian, Cambridge Express, Grimsby News, Nottingham Guardian, Liverpool Mercury, Dundee Advertiser, Birmingham Gazette, Manchester Courier, Glasgow Daily, South Wales Daily News, Eastern Morning News, Market Harborough Advertiser, Wiltshire Mirror, East London Observer, Scotsman, Morning Post, Southampton Times, Builder, Macclesfield Courier, Sanitary Record, Evesham Journal, Worcester Herald, Worcester Daily Times, Gall's Daily News Letter (Jamaica), Brighton Gazette, City Press, Leeds Mercury, Hertfordshire Mercury, Liverpool Daily Post, West Middlesex Standard, Yorkshire Post, Local Government Chronicle, Bristol Mercury, Mining Journal, Weekly Free Press and Aberdeen Herald, Reading Mercury, Surrey Advertiser, Australasian Medical Gazette, Guy's Hospital Gazette, Local Government Journal, New Zealand Herald, Rangoon Gazette, Ripley Advertiser, Alnouth Herald, Kerry Sentinel, Alliance News, Daily Chronicle, Norfolk Standard, Isle of Ely Advertiser, Berwickshire News, Falkirk Herald, Harrogate Advertiser, Eastern Daily Press, Southern Echo, Leamington Spa Courier, Lloyd's, Batley News, &c., &c.*

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

THE Index for the current half-year is given in this week's issue, which completes the first volume of the year 1895. The practice of supplying loose copies will be discontinued, the Index now being placed in the centre of the journal for the better convenience of subscribers.

"ALLEGED TOUTING BY A PUBLIC VACCINATOR."

IN our issues of May 18th and June 15th we commented upon statements reflecting on the mode of practice adopted by a public vaccinator, which, as represented, amounted briefly to "touting." This we said, and added that if the alleged touting were the fact then there had been a grave breach of professional etiquette. We have since received from both sides copies of the somewhat voluminous and acrimonious correspondence that has passed between them, upon which we are asked to adjudicate. Having perused these letters we are unable to modify our previous opinion, except to this extent—namely, that the public vaccinator seems to have acted under a mistaken sense of his duties, and therefore is hardly to be charged with intentional violation of ethical laws. The gentleman who complains that his patients were visited by the public vaccinator was perfectly justified in making his complaint. It would be intolerable if the system so complained of were the rule. The public vaccinator is only required to make domiciliary visits on persons residing at a distance of more than two miles from the vaccination station, and it is not his business, but that of the vaccinating officer, to see that those requiring public vaccination shall receive his services within the statutory period.

Dr. Gourley.—Our correspondent is thanked for sending us the letter. He is right in claiming a guinea for all insurance certificates, and whether the life be accepted or not. We demur entirely to the statements in the letter as to the custom of good offices. There should certainly be no difference as to the action of all good practitioners in refusing to do such work for less than a guinea.

WANTED, A MEDICAL HOME.

To the Editors of THE LANCET.

SIRS,—There are several institutions, I believe, in or near London which would give a home to poor gentlewomen who can pay or have paid for them a weekly sum of 15*s.* or £1. Can any of your readers give me the address of one (or more) of these homes, and recommend any one as being a good and well-managed place of the kind?

I am, Sirs, yours very truly,

June 24th, 189. A. B. C.

POSTURAL TREATMENT OF INCONTINENCE OF URINE.

ACCORDING to Dr. J. Stumpf of Wernick, incontinence of urine in children may frequently be cured by a very simple mechanical, or rather postural, expedient. The child's pelvis is raised in bed so as to be at an angle of from 130° to 150° with the vertebral column as it rests horizontally, the head being on a thin pillow. By this arrangement the weight of the bladder as it fills is prevented from pressing upon the vesical orifice of the urethra, and so does not cause involuntary micturition. After about three weeks of this treatment the child may generally be allowed to resume the ordinary position in bed without fear of a return of the incontinence.

Rodney is advised to apply to the university at which he graduated. Full particulars of the examination for diplomas in State medicine will be found in our Students' Number, Sept. 1st, 1894, p. 542.

"THE TITLE OF 'DR.'"

To the Editors of THE LANCET.

SIRS,—The pith of the pain on this subject lies in the fact that the title of "Dr." at once removes its possessor from amongst the laity and announces professional rank, whilst the title of "Mr.," as applied to a surgeon and physician, carries no distinctive professional mark, and in this respect announces nothing. This is a profound practical grievance, and how much this distinctive mark is prized the following extraordinary example illustrates. Two "Mr.'s" are in opposition in a country practice. The more recently established has "Dr." on his plate; the other, at a disadvantage, adheres to "physician and surgeon." All this disagreeableness we owe to that anomalous institution peculiar to the British Isles—"licensing bodies." In France every layman is "Monsieur," every medical man "Monsieur le Docteur." In France a man obtains a "licence" to keep a dog or to sell gin; but if he aspires to the practice of the healing art he must take the title of "Docteur." In Germany things are carried a step further. All duly qualified medical men are compelled to pass a State examination before being allowed to practise. This system possesses two high merits: it reassures the public as to the competency of the medical man, and it reduces all members of the profession to a grand equality. The introduction of a compulsory State examination, conferring the degree of Doctor of Medicine, would not only solve this bitter question of the title of "Dr.," but would probably also take the place of a second university for London. A body of examiners appointed by the State would hold examinations in three centres—London, Edinburgh, and Dublin. Such an examining body would occupy itself with two matters—a high standard of matriculation and a final examination for the diploma. A respectable standard of matriculation would be an examination corresponding with the B.A. of Oxford or Cambridge, and assuredly this is not too high a standard of liberal education for a professional man. The final examination would include the three great branches of the profession—surgery, medicine, midwifery—including the allied subjects of pathology, anatomy, physiology, materia medica, and diseases of women and children. To this diploma could be devoted that iniquitous extortion, the £5 paid by duly qualified men for mere registration. Any man passed by such a body would be deservedly styled "Doctor of Medicine."

I am, Sirs, your obedient servant,

Ulverston, June 24th, 1895. M. H. FEENY

To the Editors of THE LANCET.

SIRS,—It is not a little difficult to understand the position which THE LANCET takes up on this vexed question. You accord, you say, the title of "Dr." to the M.B. because it would be discourteous to refuse him a title which is his by courtesy. A very admirable sentiment. But it has been, time out of mind, the custom to ascribe by courtesy the title of "Dr." to *all* physicians. Is it not, then, discourteous in you to withhold it from those many members of the profession who are physicians by diploma, not by degree? But, further, if it is, as you yourselves say, discourteous to refuse a title of courtesy, what is it to refuse a title of right? Now, the L.S.A. is by right entitled to style himself "Dr." THE LANCET ignores his right and refuses him his title. The attempt to restrict the title to the M.B. and M.D., is, while the humble L.S.A. possesses this inconvenient right, on the face of it, an unfair and disingenuous one, and must necessarily fail. It seems to my humble capacity the merest common-sense to say that if X. is a doctor, not only the most courteous, but also the most accurate, description of him is "Dr. X." If a patient of mine may say to his wife, "Send for the doctor," why in the world is he not to say to me when I arrive, "Good morning, Doctor"? THE LANCET would pass the accusative but not the vocative case.

I am, Sirs, yours faithfully,

June 24th, 1895. NOT L.S.A.

SOME QUERIES AND THEIR ANSWERS AND THE RESULT.

To the Editors of THE LANCET.

SIRS,—I have only just been favoured with a unique document which has recently been going the rounds here. It purports to be a copy of the correspondence and queries which were submitted by "Dubitator" to the Editors of THE LANCET *re* medical qualifications, together with the replies of the latter thereto. This correspondence has, I understand, appeared in the issue of THE LANCET of

May 11th, 1895. As the identity of "Dubitator" is well known to me I have inwardly chuckled at the characteristic canay manner in which he has managed to draw the editors. "The gentlemen desirous of entering the profession," in whose behalf "Dubitator" seems so much interested, is of course *non est*. If, however, such an entity exists, I only trust, for the sake of the profession, that he does not belong to "Dubitator's" family, as in my opinion one "genius" of that ilk is quite enough at a time. Dealing with the queries *seriatim*, "Dubitator" lays great stress on the "tone and character" which the possession of a university degree must necessarily confer, but if the "tone and character" of this university gentleman are to be measured by his code of medical ethics, then I blush for his *alma mater*. Fancy, Sirs, this gentleman with the "tone and character" offering his services gratuitously to patients who, to his certain knowledge, were actually at the time under the care of the "mere licentiate." This designation is, I believe, yours. With reference to the second query submitted, "Dubitator" includes the broad domain of Great Britain, as if anybody ever thought of comparing for a moment the "M.D. of Aberdeen" with that obtained at the University of London, &c. It is a notorious fact that the possessors of third- or fourth-rate university degrees give more trouble about their status *vel* "tone and character" than those possessing the higher university degrees. The latter, of course, have no need of tinselling. If "Dubitator" only affixes to his M.D. the name of the northern town from which it emanates the public will be able to gauge the relative value attaching to the doctorate. Is it not an indisputable fact that until quite recently the doctorate could be obtained by those possessing a little money and no brains, by simply purchasing a return ticket and availing themselves of a northern train? It is, moreover, exceedingly strange that the plucked of Dublin almost invariably succeed beyond the border, and this "is heard not alone in Ireland," but the writer has heard it in England, America, and on the Continent. The question at issue is briefly this. You state that a university degree has some advantage over a "mere licence." Will you undertake to say whether the degree of M.D. obtained at Aberdeen some twenty years ago implies a higher standard of medical education or knowledge than that required for the diplomas of the Conjoint Board of the Royal College of Physicians and Surgeons of Ireland? An early insertion will oblige.

I am, Sirs, yours faithfully,

June 16th, 1895. VERAX.

*** We must point out to our correspondent how absolutely impossible it is that we should know the motives which lie behind the numerous written queries with which we are honoured, and which we endeavour to answer to the best of our ability.—ED. L.

A CASE FOR SUGGESTIONS.

To the Editors of THE LANCET.

SIRS,—Would any of your readers offer a few suggestions on the following case? A man thirty-eight years of age had a brawl in a public-house; he was turned out with his opponent, and received from him a blow on the head; he fell and died in from a quarter to half an hour. Post mortem a slight contusion was found over the right eyebrow and a slight abrasion on the left ear; there was no fracture; the bones of the skull, especially in the temporal region, were abnormally thick. The surface of the brain presented a somewhat hyperæmic appearance, but there was no sign of contusion of brain surface in the area corresponding to the external marks referred to above. A clot was found on the anterior surface of the medulla, and the clot was found to extend through the fourth, the third, and into the right lateral ventricle. The brain substance in the region of the right nucleus caudatus was torn up, evidently from the rupture of an artery in that situation; neither kidneys nor heart presented any pathological appearances to the naked eye, and the urine contained neither sugar nor albumen; there was no dislocation of the odontoid process or of the cervical vertebræ.—I am, Sirs, yours faithfully,

June 19th, 1895. M.D.

S. J. M.—There is no way of gauging the comparative prestige of the medical degrees of the different universities in the different divisions of the Kingdom, but the particular degree mentioned by our correspondent is an excellent one, not to be obtained without the passing of examinations of reasonable severity, and entitling its holder to be well thought of by his professional brethren.

B. L.—To our knowledge the case has not been reopened from our correspondent's point of view.

"THE INFLUENCE OF THE ADMINISTRATION OF CHLOROFORM UPON THE COURSE OF PHTHISIS PULMONALIS."

To the Editors of THE LANCET.

SIRS,—In reference to Dr. Lee's communication in THE LANCET of June 15th, I also have noticed good results following chloroform in phthisis and in cases apart from operation, in which, of course, there is room for a fallacy to creep in. In one case the evening rise of temperature disappeared for eight or ten days after each administration. Moreover, I have so often found high fever decline after its use in non-surgical cases that I have resolved to try it in any case of hyperpyrexia that becomes intractable—pulse permitting.

I am, Sirs, yours truly,

Clun, Salop, June 19th. H. CUTHBERT.

THE ANTITOXIN SUPPLY OF THE HOSPITALS OF THE METROPOLITAN ASYLUMS BOARD.

IN a leading article last week we alluded to the kindness of the Council of the British Institute of Preventive Medicine in the supply of antitoxin, as mentioned by Dr. Goodall in his interesting report. We should have supplemented this allusion by saying that in December last the managers accepted the offer of the Laboratories Committee of the Royal Colleges of Physicians of London and Surgeons of England to supply the same in sufficient quantities and of pure quality.

H. A. B.—1. There is no ground for the statement that there is any illegality in a medical man undertaking the duty.—2. Much modern brain surgery has been learned from experiments on living animals. For further information apply to the Honorary Secretary of the Association for the Advance of Medicine by Research, 57, Wimpole-street, W.

Fas.—1. Relationship to a student of medicine, however advanced, can give no claim to abatement of medical charges; but the point might be taken into consideration in conjunction with other circumstances.—2. The consultations should be charged for at the full fee.

Rustic.—There is no such institution.

"STAMMERING."

To the Editors of THE LANCET.

SIRS,—May I, in reply to Mr. Van Praagh, state that Mr. Behnke had seen no work on stammering when he devised the exercise termed by your correspondent "vocalising of sounds"? At the frequent earnest entreaty of a well-known Member of Parliament, who was his pupil for voice-use in public speaking, and who stammered, Mr. Behnke tried, and with success, to rid him of his speech trouble. Observing that he never stammered while singing, Mr. Behnke came to the obvious conclusion that this fact furnished the key to a system for training to coördination the various sets of muscles concerned in speech production. Subsequent study, aided by an ever-increasing experience, led him to recognise that there is no universal panacea for the cure of speech disorders, and that while the broad principles remain the same each case presents its own idiosyncrasies, which must be carefully recognised and treated on their merits. As my husband and I studied and worked together for nearly twenty-five years, and as I was also his secretary, I am able to vouch for the accuracy of my statements. In conclusion, it is a well-known fact that the same idea occurs to persons entirely independent of and widely separated from each other, as inventors know to their chagrin; but this does not make the idea any the less original in either case.

I am, Sirs, yours obediently,

June 24th, 1895. K. BEHNKE.

*** This correspondence must now cease.—ED. L.

A QUESTION OF ETIQUETTE.

To the Editors of THE LANCET.

SIRS,—A. is acting as locum tenens for a practitioner, and is called to see a girl one night about 6 o'clock. He saw her and prescribed for her. At 9 o'clock the next morning he received a letter from the patient's father, saying that she had been much worse through the night, and that early in the morning he had fetched B., another practitioner, who saw her by himself. The father says he has no fault to find with A., but "one has more confidence in a doctor one knows," and adds, "B. is coming to see her again to day at 12 o'clock, and would like to have met A.; but I think I would like B. to take charge of the case. However, I have no objection to A. coming back again." 1. What course should A. follow? 2. Has B. acted professionally?

I am, Sirs, yours faithfully,

June 25th, 1895. X. Y. Z.

*** A. should meet B. and decide with him amicably the course to be pursued. B. showed the proper spirit in desiring to meet A. We cannot comment on the fact that upon the first occasion of being sent for B. saw the patient by himself, because insufficient details are before us. Was the case urgent, for instance? Or was B. told that the patient was already being treated by another practitioner before he reached the house?—ED. L.

A BOOK ON TOBACCO.

To the Editors of THE LANCET.

SIRS,—I should like to get some information as to a certain book on tobacco. I have been told that there exists no book in the world that treats of the effects of nicotine. I am, however, under the impression that I saw in England a book written by an eminent English medical man, in which the effects of life abuse of tobacco and poisoning by nicotine are dealt with. Perhaps some of your readers can give me the name of the author or publisher of this book, or inform me if such a book exists. I am, Sirs, your obedient servant,

Karlsbad, May 7th, 1895. LUDWIG KOHN.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.